



1	Q	I	V	L	T	Q	S	P	A	I	M	S	A	S	P	G	E	K	V	T
1	D	I	Q	M	T	Q	S	P	S	T	L	S	A	S	V	G	D	R	V	T
21	I	T	C	S	A	S	S	S	I		S	Y	M	H	W	F	Q	Q	K	P
21	I	T	C	<u>R</u>	<u>A</u>	<u>S</u>	<u>Q</u>	<u>S</u>	<u>I</u>	<u>N</u>	<u>T</u>	<u>W</u>	<u>L</u>	<u>A</u>	<u>W</u>	<u>Y</u>	<u>Q</u>	<u>Q</u>	<u>K</u>	<u>P</u>
40	G	T	S	P	K	L	W	I	Y	T	T	S	N	L	A	S	G	V	P	A
41	G	K	A	P	K	L	<u>L</u>	<u>M</u>	<u>Y</u>	<u>K</u>	<u>A</u>	<u>S</u>	<u>S</u>	<u>L</u>	<u>E</u>	<u>S</u>	G	V	P	<u>S</u>
60	R	F	S	G	S	G	S	G	T	S	Y	S	L	T	I	S	R	M	E	A
61	R	F	<u>I</u>	G	S	G	S	G	T	E	F	T	L	T	I	S	S	L	Q	P
80	E	D	A	A	T	Y	Y	C	H	Q	R	S	T	Y	P	L	T	F	G	S
81	D	D	F	A	T	Y	Y	C	<u>Q</u>	<u>Q</u>	<u>Y</u>	<u>N</u>	<u>S</u>	<u>D</u>	<u>S</u>	<u>K</u>	<u>M</u>	<u>F</u>	<u>G</u>	<u>Q</u>
100	G	T	K	L	E	L	K													
101	G	T	K	V	E	V	K													

FIGURE 1A

1	Q	V	Q	L	Q	Q	S	G	A	E	L	A	K	P	G	A	S	V	K	M
1	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	S	S	V	K	V
21	S	C	K	A	S	G	Y	T	F	T	S	Y	R	M	H	W	V	K	Q	R
21	S	C	K	A	S	G	<u>G</u>	T	F	<u>S</u>	<u>R</u>	<u>S</u>	<u>A</u>	<u>I</u>	<u>I</u>	<u>W</u>	<u>V</u>	<u>R</u>	<u>Q</u>	<u>A</u>
41	P	G	Q	G	L	E	W	I	G	Y	I	N	P	S	T	G	Y	T	E	Y
41	P	G	Q	G	L	E	<u>W</u>	<u>M</u>	<u>G</u>	<u>G</u>	<u>I</u>	<u>V</u>	<u>P</u>	<u>M</u>	<u>F</u>	<u>G</u>	<u>P</u>	<u>P</u>	<u>N</u>	<u>Y</u>
61	N	Q	K	F	K	D	K	A	T	L	T	A	D	K	S	S	S	T	A	Y
61	<u>A</u>	<u>Q</u>	<u>K</u>	<u>F</u>	<u>Q</u>	<u>G</u>	<u>R</u>	<u>V</u>	T	I	T	A	D	E	S	T	N	T	A	Y
81	M	Q	L	S	S	L	T	F	E	D	S	A	V	Y	Y	C	A	R	G	
81	M	E	L	S	S	L	R	S	E	D	T	A	<u>F</u>	<u>Y</u>	<u>F</u>	<u>C</u>	<u>A</u>	<u>G</u>	<u>G</u>	<u>Y</u>
100	G	G	V	F	D	Y	W	G	Q	G	T	T	L	T	V	S	S			
101	<u>G</u>	<u>I</u>	<u>Y</u>	<u>S</u>	<u>P</u>	<u>E</u>	<u>E</u>	<u>Y</u>	<u>N</u>	<u>G</u>	<u>G</u>	<u>L</u>	<u>V</u>	<u>T</u>	<u>V</u>	<u>S</u>	<u>S</u>			

FIGURE 1B



1	D	I	V	L	T	Q	S	P	<u>A</u>	S	L	A	V	S	L	G	Q	R	A	T
1	E	I	V	M	T	Q	S	P	<u>A</u>	T	L	S	V	S	P	G	E	R	A	T
21	I	S	C	R	A	S	Q	S	V	S	T	S	T	Y	N	Y	M	H	W	Y
21	L	S	C	<u>R</u>	<u>A</u>	<u>S</u>	<u>Q</u>	<u>S</u>	<u>V</u>	<u>S</u>	<u>T</u>	<u>S</u>	<u>T</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>M</u>	<u>H</u>	<u>W</u>	<u>Y</u>
41	Q	Q	K	P	G	Q	P	P	K	L	L	I	K	Y	A	S	N	L	E	S
41	Q	Q	K	P	<u>G</u>	<u>Q</u>	S	P	R	L	L	I	<u>K</u>	<u>Y</u>	<u>A</u>	<u>S</u>	<u>N</u>	<u>L</u>	<u>E</u>	<u>S</u>
61	G	V	P	A	R	F	S	G	S	G	F	G	T	D	F	T	L	N	I	H
61	G	I	P	A	R	F	S	G	S	G	S	G	T	E	F	T	L	T	I	S
81	P	V	E	E	E	D	T	V	T	Y	Y	C	Q	H	S	W	E	I	P	Y
81	<u>R</u>	<u>L</u>	<u>E</u>	S	E	D	F	A	V	Y	Y	C	<u>Q</u>	<u>H</u>	<u>S</u>	<u>W</u>	<u>E</u>	<u>I</u>	<u>P</u>	<u>Y</u>
101	T	F	G	G	G	T	K	L	E	I	K									
101	T	F	G	Q	G	T	R	V	E	I	K									

FIGURE 2A

1	E	M	I	L	V	E	S	G	G	G	L	V	K	P	G	A	S	L	K	L
1	E	V	Q	L	L	E	S	G	G	G	L	V	Q	P	G	G	S	L	R	L
21	S	C	A	A	S	G	F	T	F	S	N	Y	G	L	S	W	V	R	Q	T
21	S	C	A	A	S	G	F	T	F	S	<u>N</u>	<u>Y</u>	<u>G</u>	<u>L</u>	<u>S</u>	<u>W</u>	<u>V</u>	<u>R</u>	<u>Q</u>	<u>A</u>
41	S	D	R	R	L	E	W	V	A	S	I	S	R	G	G	G	R	I	Y	S
41	P	G	K	G	L	E	W	V	A	<u>S</u>	<u>I</u>	<u>S</u>	<u>R</u>	<u>G</u>	<u>G</u>	<u>G</u>	<u>R</u>	<u>I</u>	<u>Y</u>	<u>S</u>
61	P	D	N	L	K	G	R	F	T	I	S	R	E	D	A	K	N	T	L	Y
61	<u>P</u>	<u>D</u>	<u>N</u>	<u>L</u>	<u>K</u>	<u>G</u>	R	F	T	I	S	R	N	D	S	K	N	T	L	Y
81	L	Q	M	S	S	L	K	S	E	D	T	A	L	Y	Y	C	L	R	E	G
81	L	<u>Q</u>	M	N	S	L	Q	A	E	D	T	A	L	Y	Y	C	<u>L</u>	<u>R</u>	<u>E</u>	<u>G</u>
101	I	Y	Y	A	D	Y	G	F	F	D	V	W	G	T	G	T	T	V	I	V
101	<u>I</u>	<u>Y</u>	<u>Y</u>	<u>A</u>	<u>D</u>	<u>Y</u>	<u>G</u>	<u>F</u>	<u>F</u>	<u>D</u>	<u>V</u>	<u>W</u>	G	Q	G	T	L	V	T	V
121	S	S																		
121	S	S																		

FIGURE 2B

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1	D	I	V	M	T	Q	S	H	K	F	M	S	T	S	V	G	D	R	V	S
1	D	I	Q	M	T	Q	S	P	S	T	L	S	A	S	V	G	D	R	V	T
21	I	T	C	K	A	S	Q	D	V	G	S	A	V	V	W	H	Q	Q	K	S
21	I	T	C	<u>K</u>	A	S	Q	D	V	G	S	A	V	V	W	<u>H</u>	Q	Q	K	P
41	G	Q	S	P	K	L	L	I	Y	W	A	S	T	R	H	T	G	V	P	D
41	G	K	A	P	<u>K</u>	L	L	<u>I</u>	Y	<u>W</u>	A	S	T	R	H	T	G	V	P	S
61	R	F	T	G	S	G	S	G	T	D	F	T	L	T	I	T	N	V	Q	S
61	R	F	<u>T</u>	G	S	G	S	G	T	E	F	T	L	T	I	S	S	L	Q	P
81	E	D	L	A	D	Y	F	C	Q	Q	Y	S	I	F	P	L	T	F	G	A
81	D	D	F	A	T	Y	<u>F</u>	C	<u>Q</u>	<u>Q</u>	<u>Y</u>	<u>S</u>	<u>I</u>	<u>F</u>	<u>P</u>	<u>L</u>	<u>T</u>	<u>F</u>	<u>G</u>	<u>Q</u>
101	G	T	R	L	E	L	K													
101	G	T	K	V	E	V	K													

FIGURE 3A

1	Q	V	Q	L	Q	Q	S	D	A	E	L	V	K	P	G	A	S	V	K	I
1	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	S	S	V	K	V
21	S	C	K	V	S	G	Y	T	F	T	D	H	T	I	H	W	M	K	Q	R
21	S	C	K	A	S	G	<u>Y</u>	T	F	<u>T</u>	<u>D</u>	<u>H</u>	<u>T</u>	<u>I</u>	<u>H</u>	<u>W</u>	<u>M</u>	R	Q	A
41	P	E	Q	G	L	E	W	F	G	Y	I	Y	P	R	D	G	H	T	R	Y
41	P	G	Q	G	L	E	<u>W</u>	<u>F</u>	G	<u>Y</u>	<u>I</u>	<u>Y</u>	<u>P</u>	<u>R</u>	<u>D</u>	<u>G</u>	<u>H</u>	<u>T</u>	<u>R</u>	<u>Y</u>
61	S	E	K	F	K	G	K	A	T	L	T	A	D	K	S	A	S	T	A	Y
61	<u>A</u>	<u>E</u>	<u>K</u>	<u>F</u>	<u>K</u>	<u>G</u>	<u>K</u>	<u>A</u>	T	I	T	A	D	E	S	T	N	T	A	Y
81	M	H	L	N	S	L	T	S	E	D	S	A	V	Y	F	C	A	R	G	R
81	M	E	L	S	S	L	R	S	E	D	T	A	<u>V</u>	Y	F	C	A	<u>R</u>	<u>G</u>	<u>R</u>
101	D	S	R	E	R	N	G	F	A	Y	W	G	Q	G	T	L	V	T	V	S
101	<u>D</u>	<u>S</u>	<u>R</u>	<u>E</u>	<u>R</u>	<u>N</u>	<u>G</u>	<u>F</u>	<u>A</u>	<u>Y</u>	<u>W</u>	<u>G</u>	<u>Q</u>	<u>G</u>	<u>T</u>	<u>L</u>	<u>V</u>	<u>T</u>	<u>V</u>	<u>S</u>
121	A																			
121	S																			

FIGURE 3B

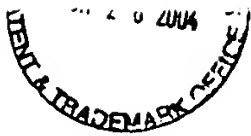


1	D	I	V	L	T	Q	S	P	A	S	L	A	V	S	L	G	Q	R	A	T
1	D	I	Q	M	T	Q	S	P	S	<u>S</u>	L	S	A	S	V	G	D	R	V	T
21	I	S	C	R	A	S	E	S	V	D	N	Y	G	I	S	F	M	N	W	F
21	I	T	C	R	A	S	E	S	V	D	N	Y	G	I	S	F	M	N	W	<u>F</u>
41	Q	Q	K	P	G	Q	P	P	K	L	L	I	Y	A	A	S	N	Q	G	S
41	Q	Q	K	P	G	K	A	P	K	L	L	<u>I</u>	Y	A	A	S	N	Q	G	S
61	G	V	P	A	R	F	S	G	S	G	S	G	T	D	F	S	L	N	I	H
61	G	V	P	S	R	F	<u>S</u>	G	S	G	S	G	T	<u>D</u>	F	T	L	N	I	S
81	P	M	E	E	D	D	T	A	M	Y	F	C	Q	Q	S	K	E	V	P	W
81	S	L	Q	P	D	D	F	A	T	Y	Y	C	<u>Q</u>	<u>Q</u>	<u>S</u>	<u>K</u>	<u>E</u>	<u>V</u>	<u>P</u>	<u>W</u>
101	T	F	G	G	G	T	K	L	E	I	K									
101	<u>T</u>	F	G	Q	G	T	K	V	E	<u>I</u>	K									

FIGURE 4A

1	E	V	Q	L	Q	Q	S	G	P	E	L	V	K	P	G	A	S	V	K	I
1	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	S	S	V	K	V
21	S	C	K	A	S	G	Y	T	F	T	D	Y	N	M	H	W	V	K	Q	S
21	S	C	K	A	S	G	<u>Y</u>	T	F	<u>T</u>	<u>D</u>	<u>Y</u>	<u>N</u>	<u>M</u>	<u>H</u>	W	V	R	Q	A
41	H	G	K	S	L	E	W	I	G	Y	I	Y	P	Y	N	G	G	T	G	Y
41	P	G	Q	G	L	E	W	<u>I</u>	G	<u>Y</u>	<u>I</u>	<u>Y</u>	<u>P</u>	<u>Y</u>	<u>N</u>	<u>G</u>	<u>G</u>	<u>T</u>	<u>G</u>	<u>Y</u>
61	N	Q	K	F	K	S	K	A	T	L	T	V	D	N	S	S	S	T	A	Y
61	<u>N</u>	<u>Q</u>	<u>K</u>	<u>F</u>	<u>K</u>	<u>S</u>	<u>K</u>	<u>A</u>	<u>T</u>	I	T	A	D	E	S	T	N	T	A	Y
81	M	D	V	R	S	L	T	S	E	D	S	A	V	Y	Y	C	A	R	G	R
81	M	E	L	S	S	L	R	S	E	D	T	A	<u>V</u>	<u>Y</u>	<u>Y</u>	C	A	<u>R</u>	<u>G</u>	<u>R</u>
101	P	A	M	D	Y	W	G	Q	G	T	S	V	T	V	S	S				
101	<u>P</u>	<u>A</u>	<u>M</u>	<u>D</u>	<u>Y</u>	<u>W</u>	<u>G</u>	<u>Q</u>	<u>G</u>	<u>T</u>	L	V	T	V	S	S				

FIGURE 4B



1	Q	I	V	L	T	Q	S	P	A	I	M	S	A	S	P	G	E	K	V	T
1	D	I	Q	M	T	Q	S	P	S	S	L	S	<u>A</u>	S	V	G	D	R	V	T
21	M	T	C	S	G	S	S	S	V	S	F	M	Y	W	Y	Q	Q	R	P	G
21	I	T	C	<u>S</u>	<u>G</u>	<u>S</u>	<u>S</u>	<u>S</u>	<u>V</u>	<u>S</u>	<u>F</u>	<u>M</u>	<u>Y</u>	W	Y	Q	Q	K	P	G
41	S	S	P	R	L	L	I	Y	D	T	S	N	L	A	S	G	V	P	V	R
41	<u>K</u>	A	P	K	L	L	I	Y	<u>D</u>	<u>T</u>	<u>S</u>	<u>N</u>	<u>L</u>	<u>A</u>	<u>S</u>	G	V	P	S	R
61	F	S	G	S	G	S	G	T	S	Y	S	L	T	I	S	R	M	E	A	E
61	F	S	G	S	G	S	G	T	D	<u>Y</u>	T	F	T	I	S	S	L	Q	P	E
81	D	A	A	T	Y	Y	C	Q	Q	W	S	T	Y	P	L	T	F	G	A	G
81	D	I	A	T	Y	Y	C	<u>Q</u>	<u>Q</u>	<u>W</u>	<u>S</u>	<u>T</u>	<u>Y</u>	<u>P</u>	<u>L</u>	<u>T</u>	F	G	Q	G
101	T	K	L	E	L	K														
101	T	K	V	E	V	K														

FIGURE 5A

1	Q	V	Q	L	K	Q	S	G	P	G	L	V	Q	P	S	Q	S	L	S	I
1	<u>E</u>	V	Q	L	L	E	S	G	G	G	L	V	Q	P	G	G	S	L	R	L
21	T	C	T	V	S	G	F	S	V	T	S	Y	G	V	H	W	I	R	Q	S
21	S	C	A	A	S	G	F	T	<u>V</u>	<u>T</u>	<u>S</u>	<u>Y</u>	<u>G</u>	<u>V</u>	<u>H</u>	W	V	R	Q	A
41	P	G	K	G	L	E	W	L	G	V	I	W	S	G	G	S	T	D	Y	N
41	P	G	K	G	L	E	W	V	<u>G</u>	<u>V</u>	<u>I</u>	<u>W</u>	<u>S</u>	<u>G</u>	<u>G</u>	<u>S</u>	<u>T</u>	<u>D</u>	<u>Y</u>	<u>N</u>
61	A	A	F	I	S	R	L	T	I	S	K	D	N	S	K	S	Q	V	F	F
61	<u>A</u>	<u>A</u>	<u>F</u>	<u>I</u>	<u>S</u>	R	F	T	I	S	R	<u>D</u>	<u>N</u>	S	K	N	T	L	Y	L
81	K	V	N	S	L	Q	P	A	D	T	A	I	Y	Y	C	A	R	A	G	D
81	Q	M	N	<u>S</u>	L	Q	A	E	<u>D</u>	<u>T</u>	A	I	Y	Y	C	A	R	<u>A</u>	<u>G</u>	<u>D</u>
101	Y	N	Y	D	G	F	A	Y	W	G	Q	G	T	L	V	T	V	S	A	
101	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>D</u>	<u>G</u>	<u>F</u>	<u>A</u>	<u>Y</u>	W	G	Q	G	T	L	V	T	V	S	S	

FIGURE 5B



1	D	I	V	L	T	Q	S	P	A	T	L	S	V	T	P	G	D	S	V	S
1	E	I	V	L	T	Q	S	P	G	T	L	S	L	S	P	G	E	R	A	T
21	L	S	C	R	A	S	Q	S	I	S	N	N	L	H	W	Y	Q	Q	K	S
21	L	S	C	R	A	S	Q	S	I	S	N	N	L	H	W	Y	Q	Q	K	P
41	H	E	S	P	R	L	L	I	K	Y	A	S	Q	S	I	S	G	I	P	S
41	G	Q	A	P	R	L	L	I	<u>K</u>	<u>Y</u>	<u>A</u>	<u>S</u>	<u>Q</u>	<u>S</u>	<u>I</u>	<u>S</u>	G	I	P	D
61	R	F	S	G	S	G	S	G	T	D	F	T	L	S	V	N	G	V	E	T
61	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	R	L	E	P
81	E	D	F	G	M	Y	F	C	Q	Q	S	N	S	W	P	H	T	F	G	G
81	E	D	F	A	V	Y	Y	C	<u>Q</u>	<u>Q</u>	<u>S</u>	<u>N</u>	<u>S</u>	<u>W</u>	<u>P</u>	<u>H</u>	<u>T</u>	F	G	Q
101	G	T	K	L	E	I	K													
101	G	T	K	V	E	I	K													

FIGURE 6A

1	E	V	Q	L	Q	Q	S	G	P	E	L	V	K	P	G	A	S	M	K	I
1	Q	V	Q	L	<u>V</u>	Q	S	G	A	E	V	K	K	P	G	S	S	V	R	V
21	S	C	K	A	S	V	Y	S	F	T	G	Y	T	M	N	W	V	K	Q	S
21	S	C	K	<u>A</u>	S	G	<u>Y</u>	<u>S</u>	F	<u>T</u>	<u>G</u>	<u>Y</u>	<u>T</u>	<u>M</u>	<u>N</u>	W	V	R	Q	A
41	H	G	Q	N	L	E	W	I	G	L	I	N	P	Y	N	G	G	T	S	Y
41	P	G	K	G	L	E	W	V	G	<u>L</u>	<u>I</u>	<u>N</u>	<u>P</u>	<u>Y</u>	<u>N</u>	<u>G</u>	<u>G</u>	<u>T</u>	<u>S</u>	<u>Y</u>
61	N	Q	K	F	K	G	K	A	T	L	T	V	D	K	S	S	N	T	A	Y
61	<u>N</u>	<u>Q</u>	<u>K</u>	<u>F</u>	<u>K</u>	<u>G</u>	R	V	<u>T</u>	V	S	L	K	P	S	F	N	Q	A	<u>Y</u>
81	M	E	L	L	S	L	T	S	A	D	S	A	V	Y	Y	C	T	R	R	G
81	M	E	L	S	S	L	F	S	E	D	T	A	V	Y	Y	C	<u>T</u>	R	<u>R</u>	<u>G</u>
101	F	R	D	Y	S	M	D	Y	W	G	Q	G	T	S	V	T	V	S	S	
101	<u>F</u>	<u>R</u>	<u>D</u>	<u>Y</u>	<u>S</u>	<u>M</u>	<u>D</u>	<u>Y</u>	W	G	Q	G	T	L	V	T	V	S	S	

FIGURE 6B

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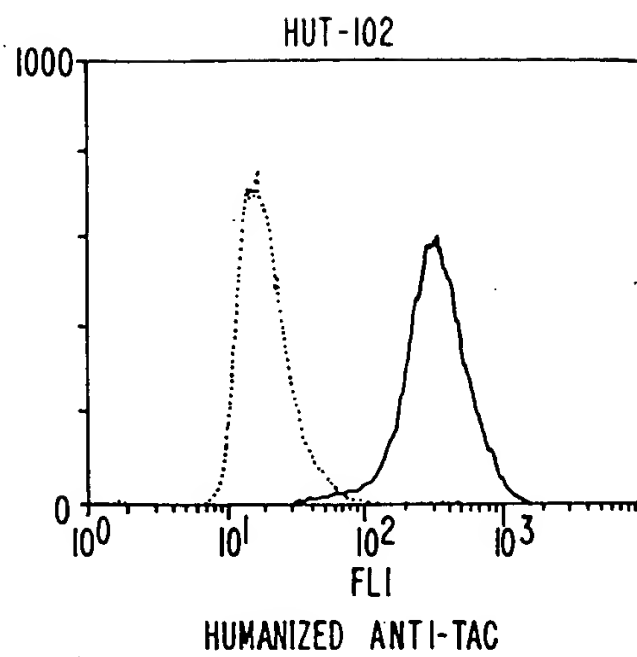


FIGURE 7A

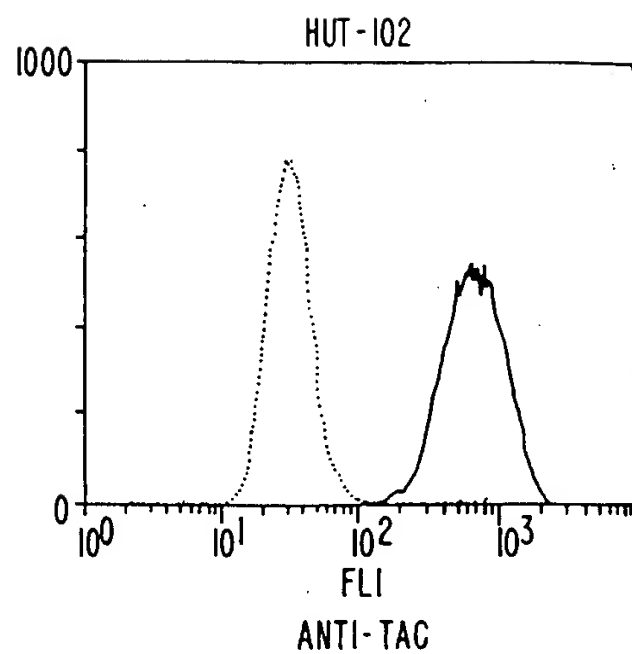


FIGURE 7B

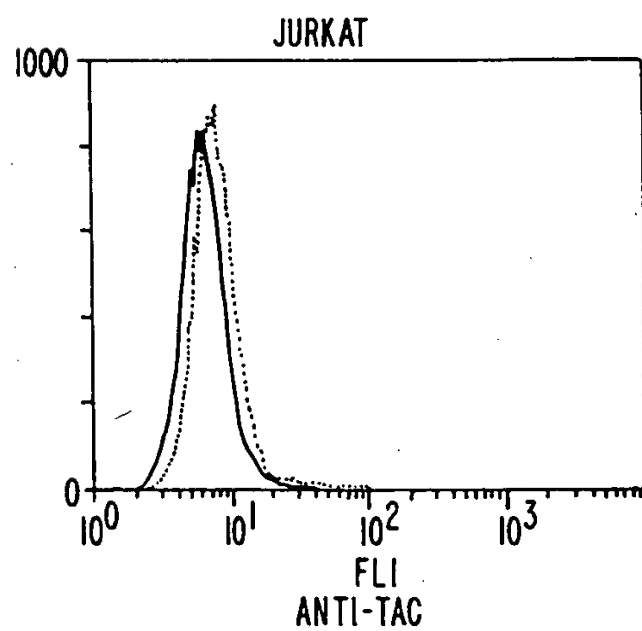


FIGURE 7C

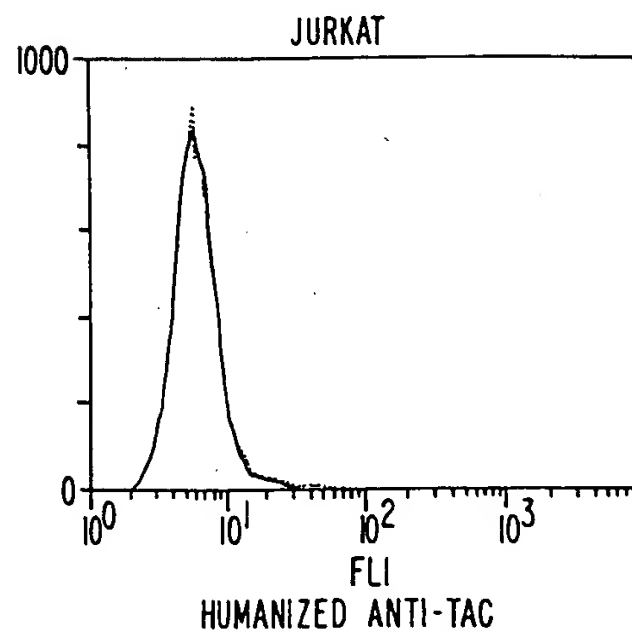


FIGURE 7D

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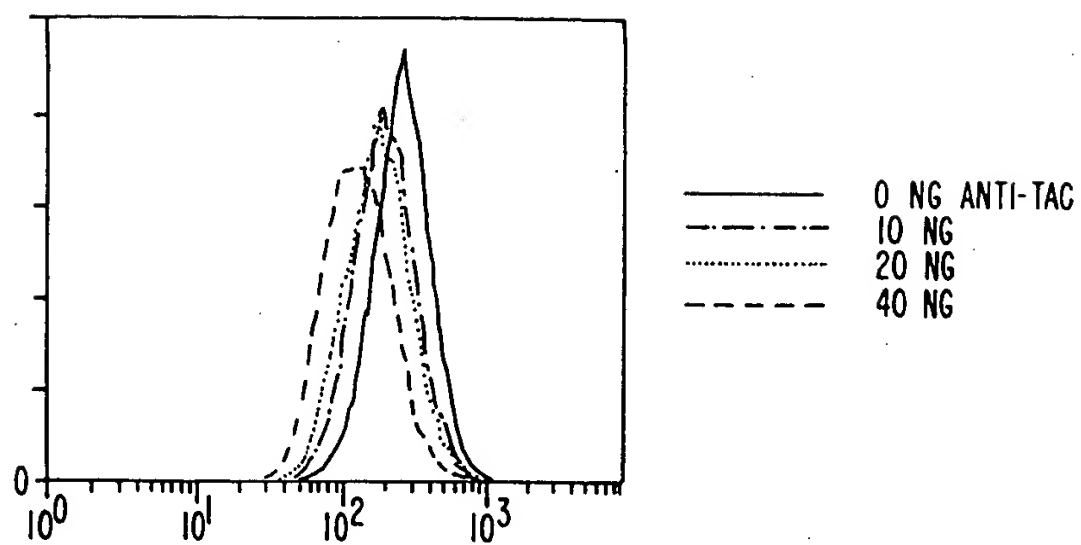


FIGURE 8A

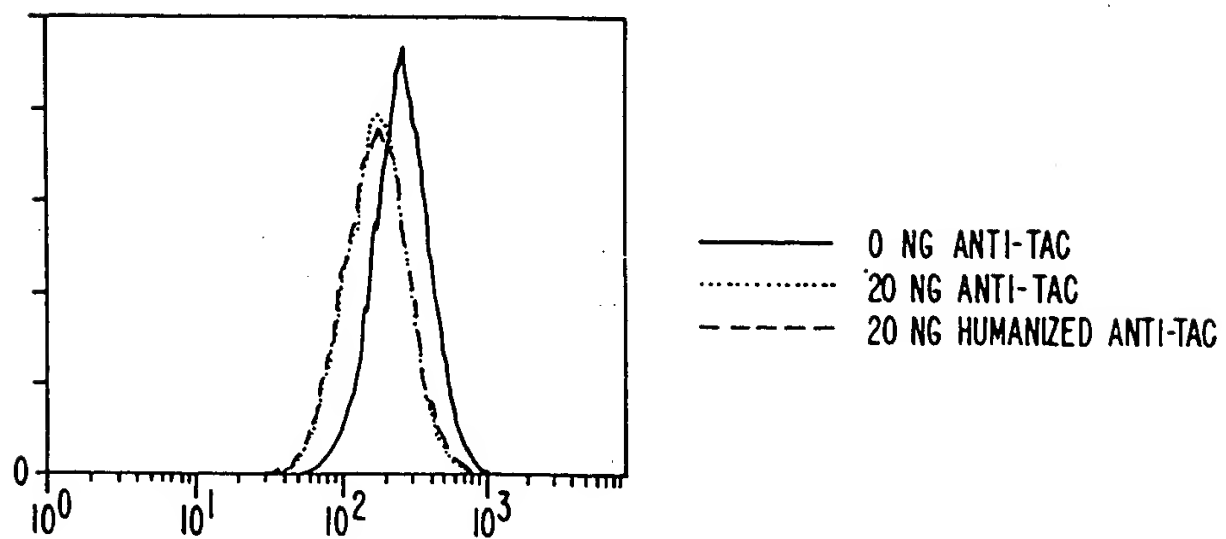


FIGURE 8B



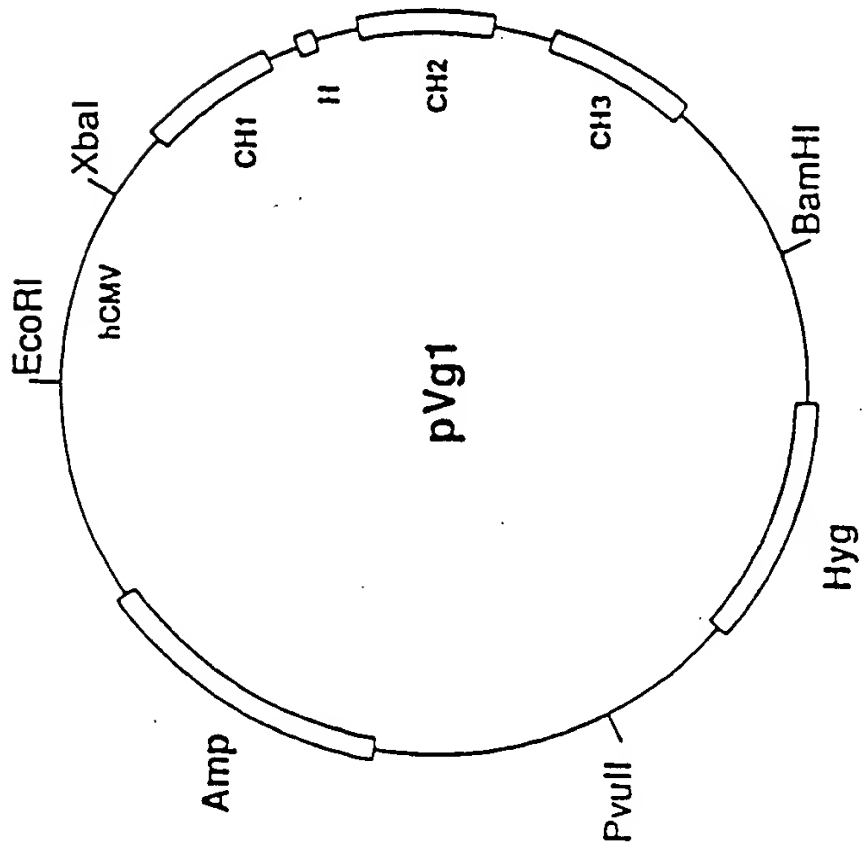


FIGURE 9A

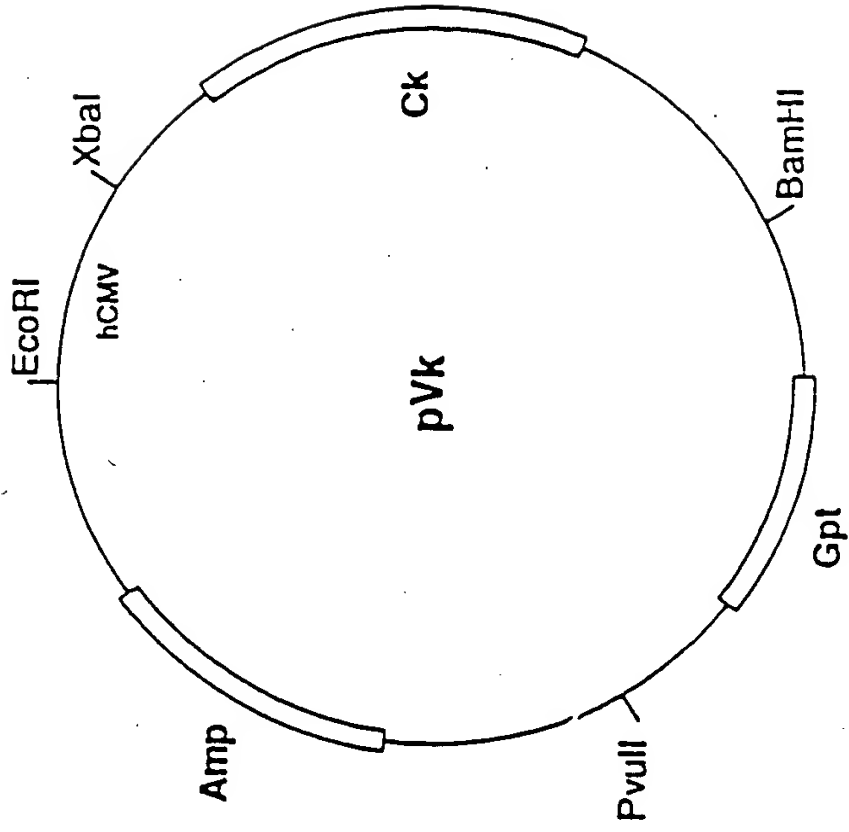


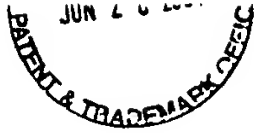
FIGURE 9B

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Q . . . Q	V . . . V	Q . . . Q	L . . . L	V . . . V	Q . . . Q	S . . . S	G . . . G	A . . . A	E . . . E	V . . . V	K . . . K	P . . . P	C . . . C	S . . . S	S . . . S	V . . . V	K . . . K	V . . . V
S . . . S	C . . . C	K . . . K	A . . . A	S . . . S	G . . . G	Y . . . Y	T . . . T	F . . . F	T . . . T	S . . . S	S . . . S	R . . . R	M . . . M	H . . . H	W . . . W	V . . . V	R . . . R	A . . . A
P . . . P	G . . . G	Q . . . Q	G . . . G	L . . . L	E . . . E	W . . . W	I . . . I	G . . . G	Y . . . Y	I . . . I	N . . . N	P . . . P	S . . . S	T . . . T	G . . . G	Y . . . Y	T . . . T	Y . . . Y
N . . . N	Q . . . Q	K . . . K	F . . . F	K . . . K	D . . . D	K . . . K	A . . . A	T . . . T	I . . . I	T . . . T	A . . . A	D . . . D	E . . . E	S . . . S	T . . . T	N . . . N	T . . . T	Y . . . Y
M . . . M	E . . . E	L . . . L	S . . . S	S . . . S	L . . . L	R . . . R	S . . . S	E . . . E	D . . . D	T . . . T	A . . . A	V . . . V	Y . . . Y	Y . . . Y	C . . . C	A . . . A	R . . . R	G . . . G
G . . . G	V . . . V	F . . . F	D . . . D	Y . . . Y	W . . . W	G . . . G	Q . . . Q	G . . . G	T . . . T	L . . . L	V . . . V	T . . . T	V . . . V	S . . . S	S . . . S	S . . . S	G . . . G	S . . . S

FIGURE 10A





10	20	30	40	50	60	70
AGCTTCTAGA	TGGGATGGAG	CTGGATCTTT	CTCTTCTCTC	TGTCAGGTAC	CGCGGGCGTG	CACCTCTCAGG
TCGAAGATCT	ACCCTACCTC	GACCTAGAAA	GAGAAGGAGG	ACAGTCCATG	GGCCCCCGAC	GTGADAGTCC
80	90	100	110	120	130	140
TCCAGCTTGT	CCAGTCTGGG	GCTGAAGTCA	AGAAACCTGG	CTCGAGCGTG	AAGGTCTCCT	GCAAGGCTTC
AGGTCGAACA	GGTCAGACCC	CGACTTCAGT	TCTTTGGACC	GAGCTCGCAC	TTCCAGAGGA	CGTTCCGAAG
150	160	170	180	190	200	210
TGCGGGGACC	TTTTCTAGCT	ACAGGATGCA	CTGGGTAAGG	CAGGCCCTTG	GACAGGGTCT	GGAATGGATG
ACCGCCCTGG	AAAGATCGA	TGTCCTACGT	GACCCATTCC	GTCCGGGGAC	CTGTCCCGAG	CGTTACCTAC
220	230	240	250	260	270	280
GGATATATTA	ATCCGTGCGAC	TGGGTATACT	GAATACAATC	AGAAQTTCAA	GGACAGGGTG	ACAATTACTG
CCATATAAAT	TAGGCAGCTG	ACCCATATGA	CTTATGTTAG	TCTTCAAGTT	CCTGTCCCGAG	TGTTAATGAC
290	300	310	320	330	340	350
CAGACGAATC	CACCAATACA	GCCTACATGG	AAC TGAGCAG	CCTGAGATCT	GAGGACACCG	CATTCTATTT
GTCTGCTTAG	GTGGTTATGT	CGGATGTACC	TTGACTCTGC	GGACTCTAGA	CTCCTGTGGC	GTAAGATAAA
360	370	380	390	400	410	420
CTGTCCAGCG	GGTGGGGGAG	TCTTTGACTA	CGAATACAAT	GGAGGGCTGG	TCACAGTCTC	CTCAGGTGAG
GACAGGTCCC	CCACCCCTC	AGAAACTGAT	GCCTATGTTA	CCTCCCGACC	AGTGTGAGAG	GAGTCCACTC
430	440					
TCCTTAAAC	CTCTAGACGA	TAT				
AGGAATTTTG	GAGATCTGCT	ATA				

FIGURE 11A

10	20	30	40	50	60	70
CAATCTAGA	TGGAGACCGA	TACCTCCTG	CTATGGGTCC	TCCTGCTATG	GGTCCCAGGA	TCAACCGGAG
GTTTAGATCT	ACCTCTGGCT	ATGGAGGAC	GATACCCAGG	AGGACGATAC	CCAGGGTCCT	AGTTGGCCCTC
80	90	100	110	120	130	140
ATATTCAGAT	GACCCAGTCT	CCATCTACCC	TCTCTGCTAG	CGTCGGGGAT	AGGTCACCA	TAACCTGCTC
TATAAGTCTA	CTGGGTCAGA	GGTAGATGGG	AGAGACGATC	GCAGCCCCCTA	TCCCAGTGCT	ATTGGACGAG
150	160	170	180	190	200	210
TGCCAGCTCA	AGTATAAGTT	ACATGCCACTG	GTACCAGCAG	AAGCCAGGCA	AAGCTCCCA	GCTTCTAATG
ACGGTCGAGT	TCAATTTCAA	TGTACGTGAC	CATGGTCGT	TTCGGTCCGT	TTCGAGGGTT	CGAAGATTAC
220	230	240	250	260	270	280
TATACCAT	CCAACCTGGC	TTCTGGAGTC	CCTTCTCGCT	TCATTGGCAG	TGGATCTGGG	ACCOAGTTCA
ATAATGGTCTA	GGTTGGACCG	AAGACCTCAG	GGAAGAGCGA	AGTAACCCGC	ACCTAGACCC	TGGCTCAAGT
290	300	310	320	330	340	350
CCCTCACAAAT	CAGCTCTCTG	CAGCCAGATG	ATTTCGCCAC	TTATTACTGC	CATCAAAGGA	GTACTTACCC
GGGAGTGTTA	GTCGAGAGAG	GTCGGTCTAC	TAAAGCGGTG	AATAATGACG	GTAGTTTCTT	CATGAATGGG
360	370	380	390	400		
ACTCACGTTT	GGTCAGGGGA	CCAAGGTGGA	GGTCAAACGT	AAGTACACTT	TTCTAGATAT	A
TGAGTGCAAG	CCAGTCCCT	GGTTCCACCT	CCAGTTTGCA	TTCATGTGAA	AAGATCTATA	T

FIGURE 11B

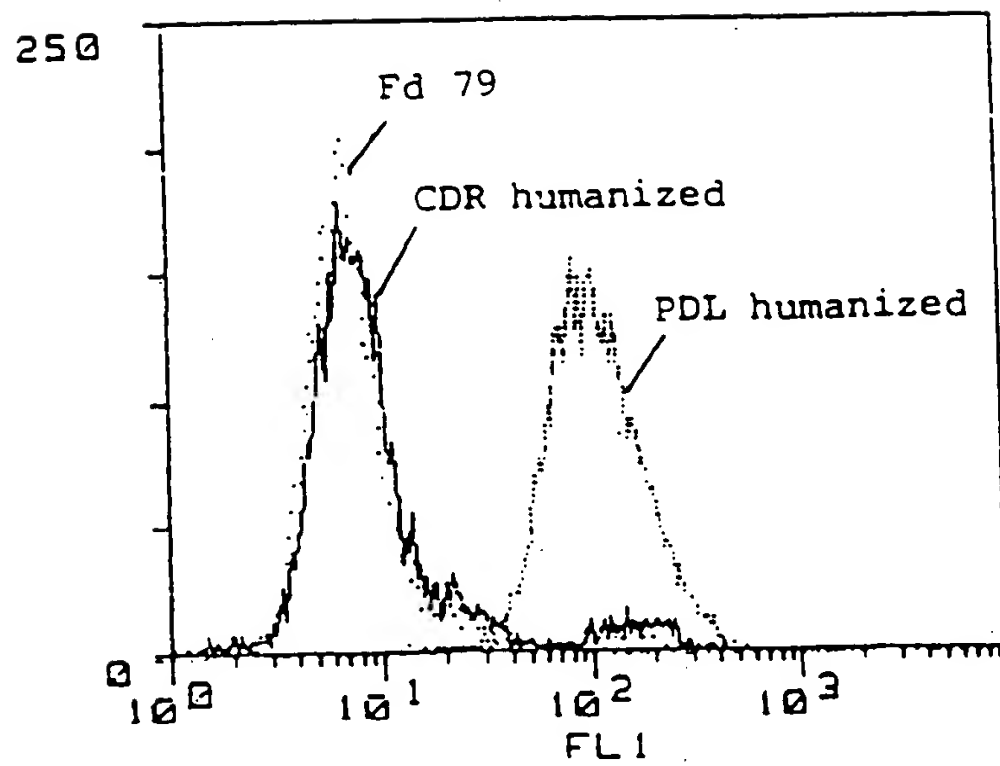


FIGURE 12

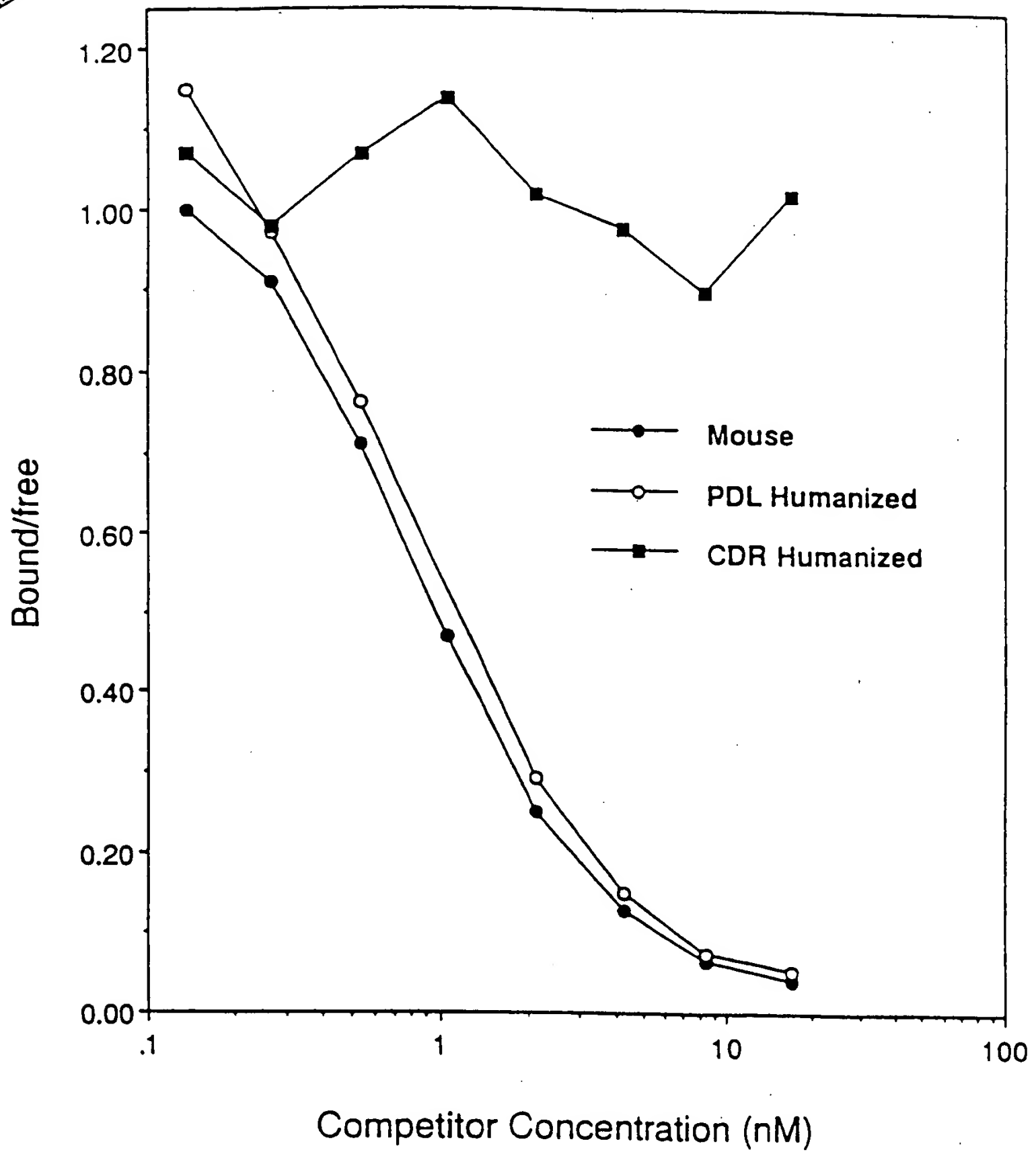


FIGURE 13

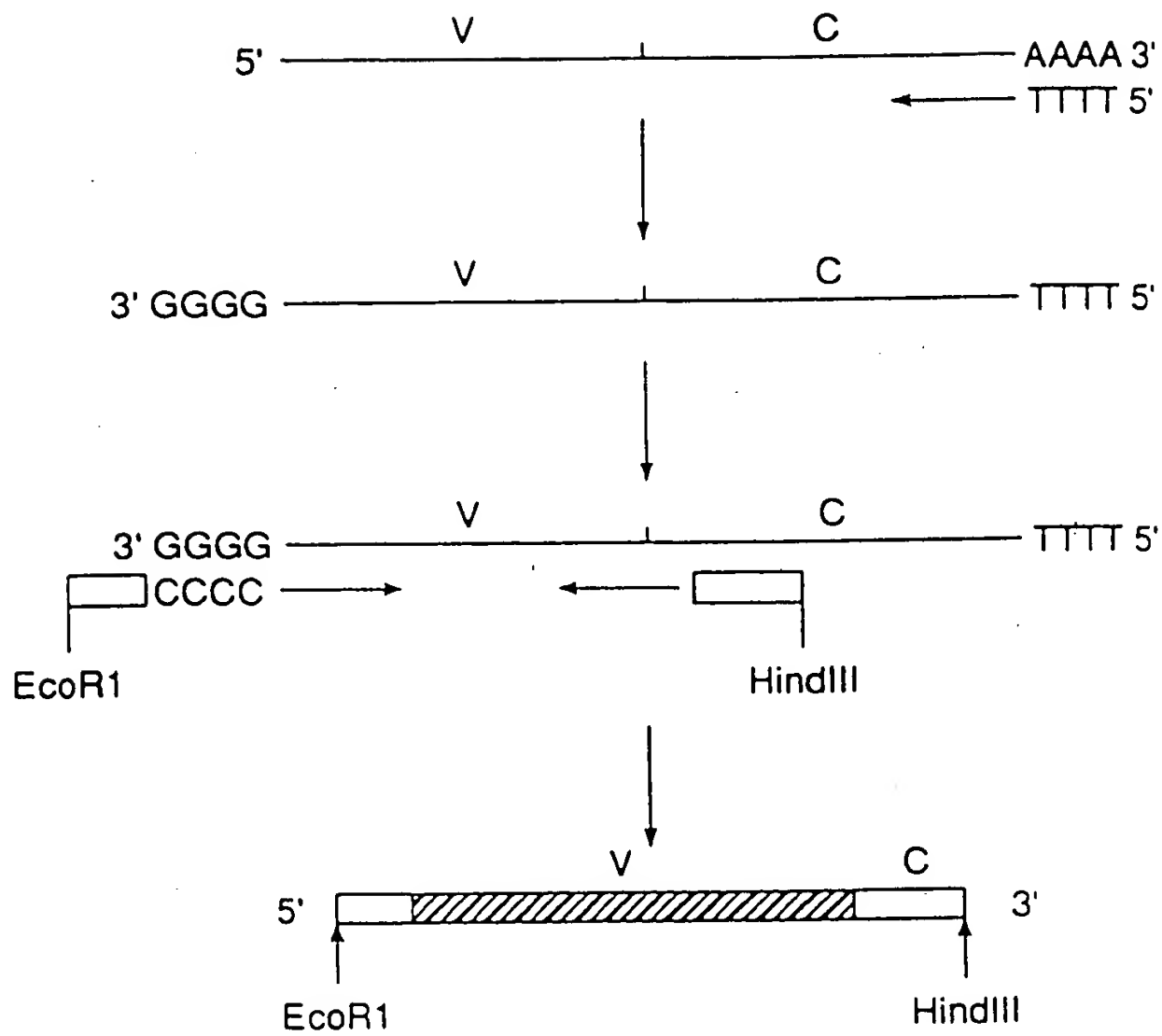


FIGURE 14



1	Q	V	Q	L	Q	S	G	A	E	L	A	K	P	G	A	S	V	K	M
1	Q	V	Q	L	Q	S	G	A	E	L	A	K	P	G	A	S	V	K	V
21	S	C	K	A	S	Y	T	F	T	S	Y	R	M	H	W	V	K	Q	R
21	S	C	K	A	S	Y	T	F	T	S	Y	R	M	H	W	V	K	Q	A
41	P	G	Q	G	L	E	I	G	Y	I	N	P	S	T	G	Y	T	E	Y
41	P	G	Q	G	L	E	I	G	Y	I	N	P	S	T	G	Y	T	E	Y
61	N	Q	K	F	K	D	K	A	T	L	A	D	K	S	S	S	T	A	Y
61	A	Q	K	F	K	D	K	A	T	L	A	D	K	S	S	S	T	A	Y
81	M	Q	L	S	S	L	T	F	E	D	S	A	V	Y	Y	C	A	R	G
81	M	Q	L	S	S	L	T	F	E	D	S	A	V	Y	Y	C	A	R	G
100	G	G	V	F	D	Y	W	G	Q	G	T	T	L	T	V	S	S	S	S
101	G	G	V	F	D	Y	W	G	Q	G	T	T	L	T	V	S	S	S	S

FIGURE 15

1	Q	I	V	L	T	Q	S	P	A	I	M	S	A	S	P	G	E	K	V	T
1	D	I	Q	M	T	Q	S	P	S	T	L	S	A	S	V	G	D	R	V	T
21	I	T	C	S	A	S	S	S	I		S	Y	M	H	W	F	Q	K	P	
21	I	T	C	R	A	S	Q	S	I	N	T	W	L	A	W	Y	Q	K	P	
40	G	T	S	P	K	L	W	I	Y	T	T	S	N	L	A	S	G	V	A	
41	G	K	A	P	K	L	L	M	Y	K	A	S	S	L	E	S	I	V	S	
60	R	F	S	G	S	G	S	G	T	S	Y	S	L	T	I	S	R	M	A	
61	R	F	I	G	S	G	S	G	T	E	F	T	L	T	I	S	L	Q	P	
80	E	D	A	A	T	Y	Y	C	H	Q	R	S	T	Y	P	L	T	F	S	
81	D	D	F	A	T	Y	Y	C	Q	Q	Y	N	S	D	S	K	M	F	Q	
100	G	T	K	L	E	L	K													
101	G	T	K	L	E	L	K													

FIGURE 16

10 20 30 40 50 60  
TCTAGATGGGATGGAGCTGGATCTTTCTCTTCCTCCTGTCAGGTACCGCGGGCGGTGCACT  
M G W S W I F L F L L S G T A G V H

70 80 90 100 110 120  
CTCAGGTCCAGCTTGTCCAGTCTGGGGCTGAAGTCAAGAAACCTGGCTCGAGCGTGAAGG  
S Q V Q L V Q S G A E V K K P G S S V K

130 140 150 160 170 180  
TCTCCTGCAAGGCTTCTGGCTACACCTTTACTAGCTACAGGATGCACTGGGTAAGGCAGG  
V S C K A S G Y T F T S Y R M H W V R Q

190 200 210 220 230 240  
CCCCTGGACAGGGTCTGGAATGGATTGGATATATTAATCCGTGCACTGGGTATACTGAAT  
A P G Q G L E W I G Y I N P S T G Y T E

250 260 270 280 290 300  
ACAATCAGAAGTTCAAGGACAAGGCAACAATTACTGCAGACGAATCCACCAATACAGCCT  
Y N Q K F K D K A T I T A D E S T N T A

310 320 330 340 350 360  
ACATGGAAGTGAAGCAGCCTGAGATCTGAGGACACCGCAGTCTATTACTGTGCAAGAGGGG  
Y M E L S S L R S E D T A V Y Y C A R G

370 380 390 400 410 420  
GGGGGGTCTTTGACTACTGGGGCCAAGGAACCCTGGTCACAGTCTCCTCAGGTGAGTCCT  
G G V F D Y W G Q G T L V T V S S

430  
TAAAACCTCTAGA

FIGURE 17

10 20 30 40 50 60  
TCTAGATGGAGACCGATACCTCCTGCTATGGGTCTCCTGCTATGGGTCCCAGGATCAA  
M E T D T L L L W V L L L W V P G S

70 80 90 100 110 120  
CCGGAGATATTGAGATGACCCAGTCTCCATCTACCCTCTCTGCTAGCGTCGGGGATAGGG  
T G D I Q M T Q S P S T L S A S V G D R

130 140 150 160 170 180  
TCACCATAACCTGCTCTGCCAGCTCAAGTATAAGTTACATGCACTGGTACCAGCAGAAGC  
V T I T C S A S S S I S Y M H W Y Q Q K

190 200 210 220 230 240  
CAGGCAAAGCTCCCAAGCTTCTAATTTATACCACATCCAACCTGGCTTCTGGAGTCCCTG  
P G K A P K L L I Y T T S N L A S G V P

250 260 270 280 290 300  
CTCGCTTCAGTGGCAGTGGATCTGGGACCGAGTTCACCCTCACAATCAGCTCTCTGCAGC  
A R F S G S G S G T E F T L T I S S L Q

310 320 330 340 350 360  
CAGATGATTTGCCCACTTATTACTGCCATCAAAGGAGTACTTACCCACTCAGGTTCCGGTC  
P D D F A T Y Y C H Q R S T Y P L T F G

370 380 390 400  
AGGGGACCAAGGTGGAGGTCAAACGTAAGTACACTTTTCTAGA  
Q G T K V E V K

FIGURE 18

HES12 AGCTTCTAGATGGGATGGAGCTGGATCTTTCTCTTCCCTGTCAGGTACCGGGGGCGTG  
CACTCTCAGGTCAGCTTGTCCAGTCTGGGGCTGAAGTCAAGAACCTGGCTCGAGCGTG  
AAGGTC

HES13 CCAGTCGACGGATTATATATCCAAATCCATTCAGAGCCCTGTCCAGGGGCGCTGCCTTAC  
CCAGTGCATCCTGTAGCTAGTAAGGTGTAGCCAGAGCCTTGCAGGAGACCTTCACGGCT  
CGAGCCAGG

HES14 TATAATTAAATCCGTCGACTGGGTATACCTGAATACAAATCAGAACTTCAAGGACAAGGCAACA  
ATTACTGCAGACGGAATCCACCAATACAGCCTACATGGAAGTGAAGCCCTGAGATCTGAG  
GACA

HES15 ATATCGTCTAGAGGTTTTAAAGGACTCACCCTGAGGAGACTGTGACCAAGGTTCCCTTGGCCC  
CAGTAGTCAAGAGCCCGCCCTCTTGCACAGTAATAGACTGCGGTGTCCTCAGATCTC  
AGGCTGCT

FIGURE 19A



FIGURE 19B

JFD1 CAAATCTAGATGGAGACCGGATACCGTCCGTGCTATGGGTCCTCCGTGCTATG66GTCCCAG6A  
TCAACCGGAGATATTGAGATGACCCAGTCTCCATCTACCCCTCTCTGCTAGCGTCCGGGGAT

JFD2 ATAAATTAGAAAGCTTGGGAGCTTTGGCTGGCTTCTGCTGGTACGAGTGGCATGTAAC TTAT  
ACTTGAGCTGGCAGAGCAGGTTATGGTGACCCCTATCCCGGACGCTAGCAGAGAG

JFD3 GCTCCCAAGCTTCTAATTTATAGCACATCGAAGCTGGCTTCTG6AGTCCCTGCTGGCTTC  
AGTGGCAGTGGATCTGGGACCGAGTTCACCCCTCACAAATCAGCTCTCTGGAGCCAGATGAT  
TTC

JFD4 TATACTAGAAAGTGTA CTTACGTTTGACCTCCACCTTG6TCCCTGACCGAAGCTGAG  
TCGGTAAGTACTCCTTTGATGGCAGTAATAAGTGGCGAAATCATCTGGCTGCAGAGAGCT  
GA

FIGURE 20A

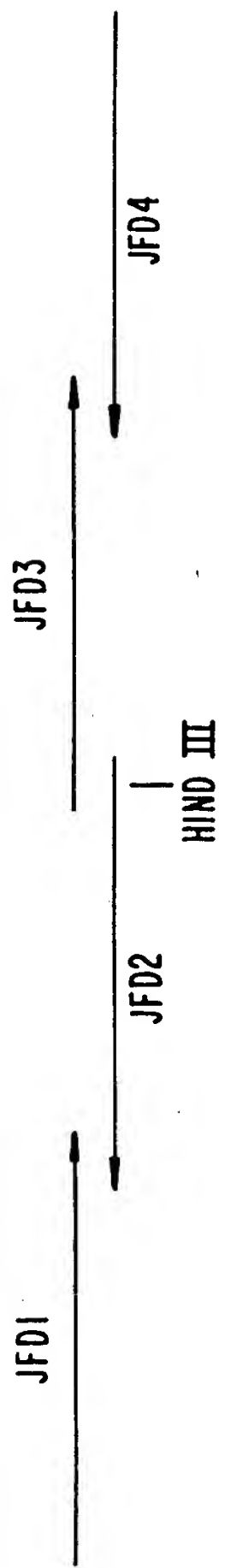


FIGURE 20B

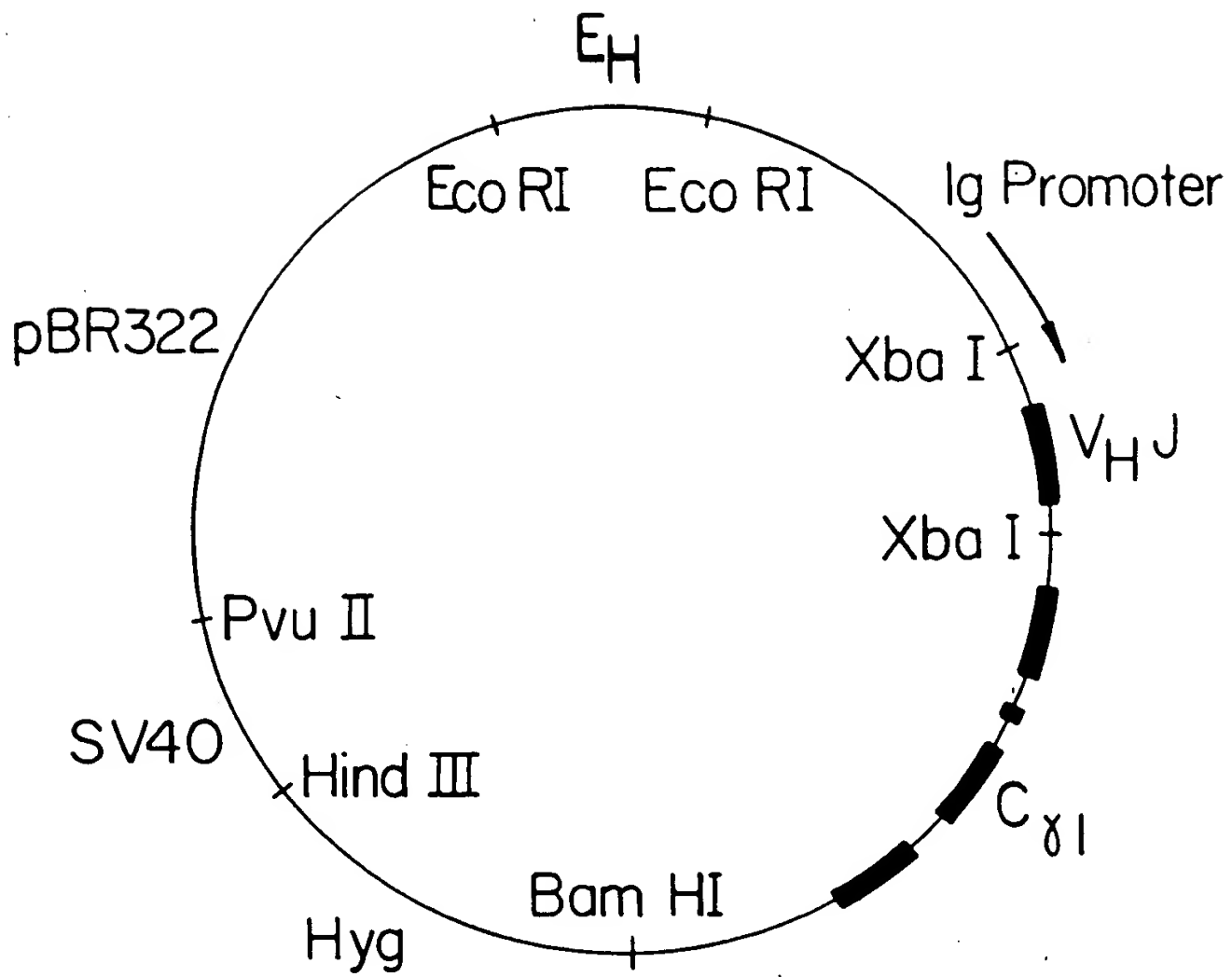


FIGURE 21

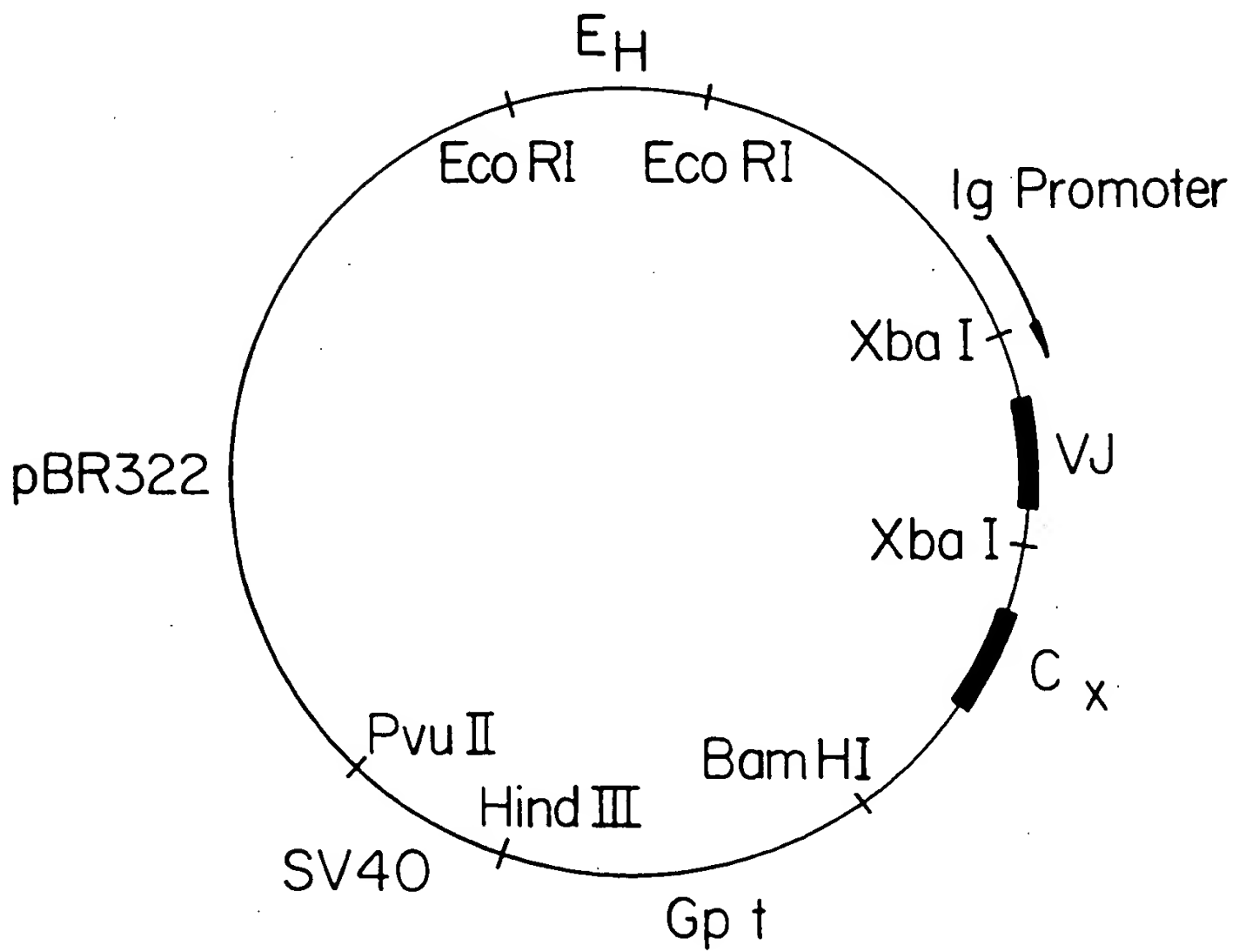


FIGURE 22

30 60  
ATGGATTTTCAAGTGCAGATTTTCAGCTTCCTGCTAATCAGTGCCTCAGTCATACTGTCC  
M D F Q V Q I F S F L L I S A S V I L S

90 120  
AGAGGACAAATTGTTCTCACCCAGTCTCCAGCAATCATGTCTGCGTCTCCAGGGGCGAAG  
R G Q I V L T Q S P A I M S A S P G E K

150 180  
GTCACCATGACCTGCAGTGGCAGCTCAAGTGTAAGTTTCATGTACTGGTACCAGCAGAGG  
V T M T C S G S S S V S F M Y W Y Q Q R

210 240  
CCAGGATCCTCCCCCAGACTCCTGATTTATGACACATCCAACCTGGCTTCTGGAGTCCCT  
P G S S P R L L I Y D T S N L A S G V P

270 300  
GTTGCTTTCAGTGGCAGTGGGTCTGGGACCTCTTACTCTCTCACAATCAGCCGAATGGAG  
V R F S G S G S G T S Y S L T I S R M E

330 360  
GCTGAAGATGCTGCCACTTATTACTGCCAGCAGTGGAGTACTTACCCGCTCACGTTTCGGT  
A E D A A T Y Y C Q Q W S T Y P L T F G

GCTGGGACCAAGCTGGAGCTGAAA  
A G T K L E L K

FIGURE 23A

30 60  
ATGGCTGTCTTGGGGCTGCTCTTCTGCCTGGTGACATTCCCAAGCTGTGTCCTATCCCAG  
M A V L G L L F C L V T F P S C V L S Q

90 120  
GTGCAGCTGAAGCAGTCAGGACCTGGCCTAGTGCAGCCCTCACAGAGCCTGTCCATCACC  
V Q L K Q S G P G L V Q P S Q S L S I T

150 180  
TGCACAGTCTCTGGTTTCTCAGTAACAAGTTATGGTGTACACTGGATTTCGCCAGTCTCCA  
C T V S G F S V T S Y G V H W I R Q S P

210 240  
GGAAAGGGTCTGGAGTGGCTGGGAGTGATATGGAGTGGTGGGAAGCACAGACTATAATGCA  
G K G L E W L G V I W S G G S T D Y N A

270 300  
GCTTTCATATCCAGACTGACCATCAGCAAGGACAACCTCCAAGAGCCAAGTTTCTTTAAA  
A F I S R L T I S K D N S K S Q V F F K

330 360  
GTGAACAGTCTGCAACCTGCTGACACAGCCATATACTATTGTGCCAGAGCTGGGGACTAT  
V N S L Q P A D T A I Y Y C A R A G D Y

390  
AATTACGACGGTTTTGCTTACTGGGGCCAAGGGACTCTGGTCACTGTCTCTGCG  
N Y D G F A Y W G Q G T L V T V S A

FIGURE 23B



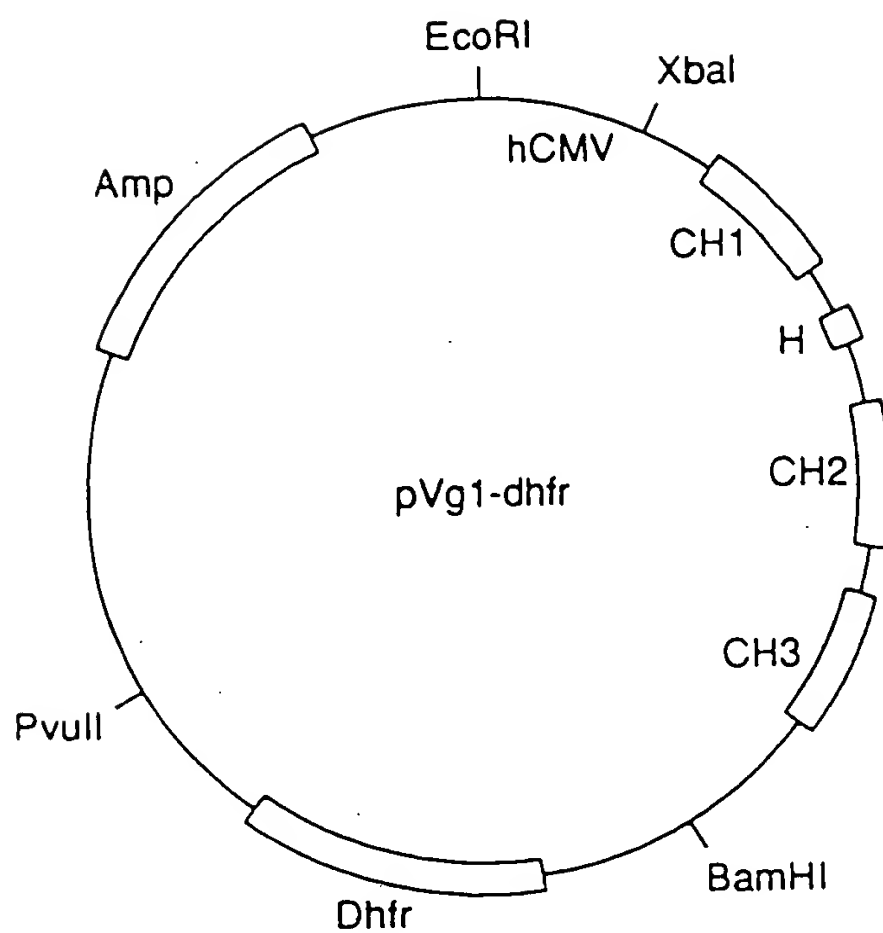


FIGURE 24A

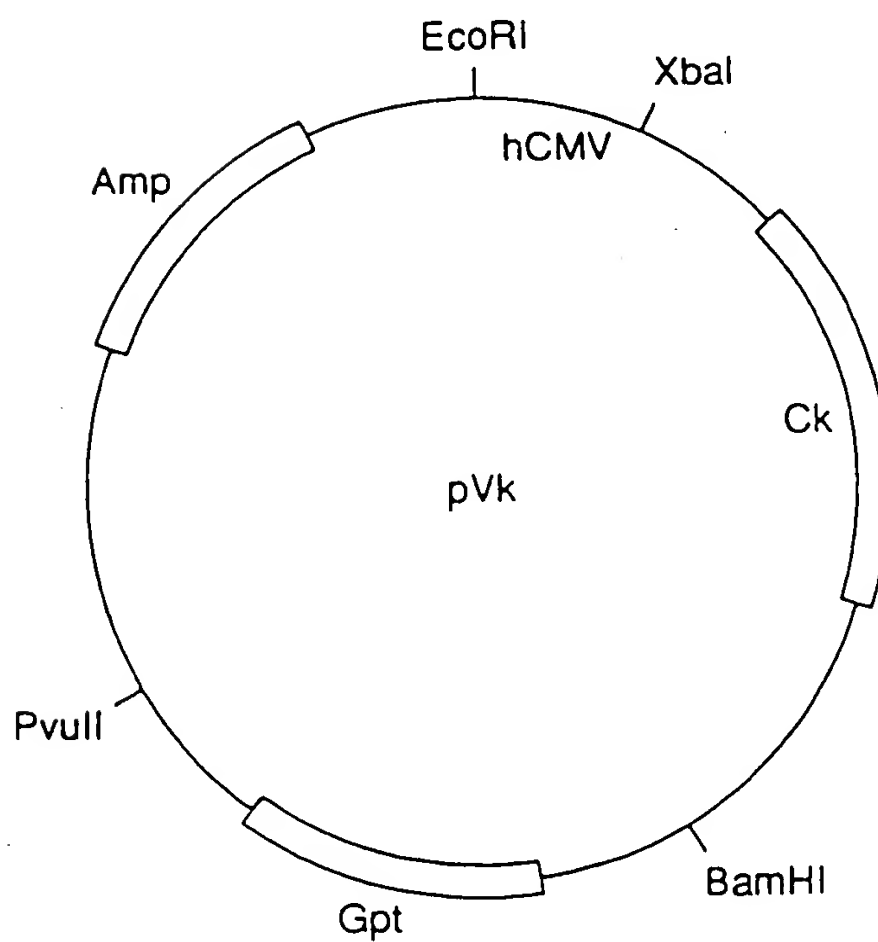


FIGURE 24B

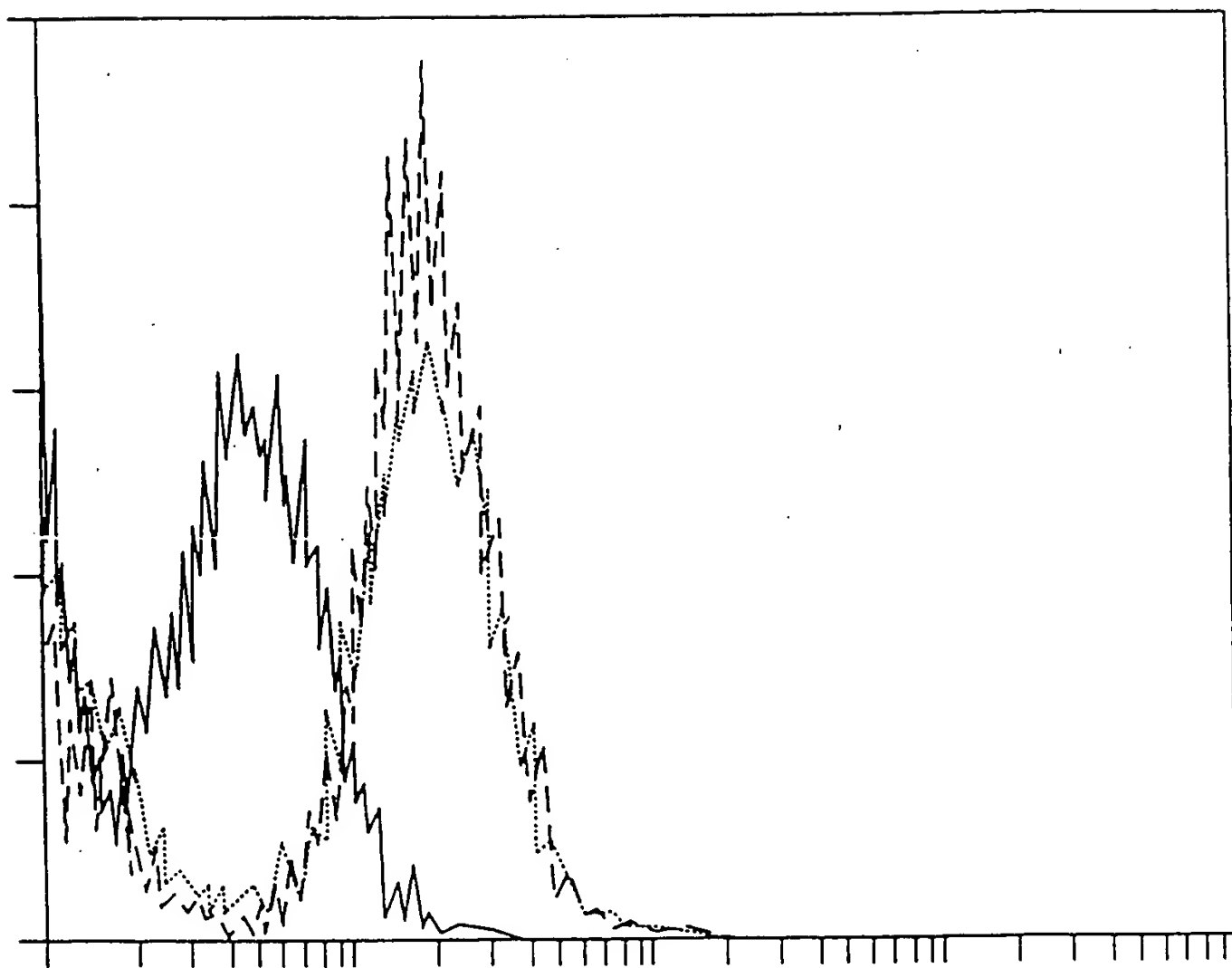


FIGURE 25

1	D	I	Q	M	T	Q	S	P	S	S	L	S	V	S	V	G	D	R	V	T
1	D	I	Q	M	T	Q	S	P	S	S	L	S	<u>A</u>	S	V	G	D	R	V	T
21	I	T	C	Q	A	S	Q	N	V	N	A	Y	L	N	W	Y	Q	Q	K	P
21	I	T	C	<u>S</u>	<u>G</u>	<u>S</u>	<u>S</u>	<u>S</u>	<u>V</u>		<u>S</u>	<u>F</u>	<u>M</u>	<u>Y</u>	W	Y	Q	Q	K	P
41	G	L	A	P	K	L	L	I	Y	G	A	S	T	R	E	A	G	V	P	S
40	G	<u>K</u>	A	P	K	L	L	I	Y	<u>D</u>	<u>T</u>	<u>S</u>	<u>N</u>	<u>L</u>	<u>A</u>	<u>S</u>	G	V	P	S
61	R	F	S	G	S	G	S	G	T	D	F	T	F	T	I	S	S	L	Q	P
60	R	F	S	G	S	G	S	G	T	D	<u>Y</u>	T	F	T	I	S	S	L	Q	P
81	E	D	I	A	T	Y	Y	C	Q	Q	Y	N	N	W	P	P	T	F	G	Q
80	E	D	I	A	T	Y	Y	C	<u>Q</u>	<u>Q</u>	<u>W</u>	<u>S</u>	<u>T</u>	<u>Y</u>	<u>P</u>	<u>L</u>	<u>T</u>	F	G	Q
101	G	T	K	V	E	V	K													
100	G	T	K	V	E	V	K													

FIGURE 26A

1	A	V	Q	L	L	E	S	G	G	G	L	V	Q	P	G	G	S	L	R	L
1	<u>E</u>	V	Q	L	L	E	S	G	G	G	L	V	Q	P	G	G	S	L	R	L
21	S	C	A	A	S	G	F	T	F	S	A	S	A	M	S	W	V	R	Q	A
21	S	C	A	A	S	G	F	T	<u>V</u>	<u>T</u>	<u>S</u>	<u>Y</u>	<u>G</u>	<u>V</u>	<u>H</u>	W	V	R	Q	A
41	P	G	K	G	L	E	W	V	A	W	K	Y	E	N	G	N	D	K	H	Y
41	P	G	K	G	L	E	W	V	<u>G</u>		<u>V</u>	<u>I</u>	<u>W</u>	<u>S</u>	<u>G</u>	<u>G</u>	<u>S</u>	<u>T</u>	<u>D</u>	<u>Y</u>
61	A	D	S	V	N	G	R	F	T	I	S	R	N	D	S	K	N	T	L	Y
60	<u>N</u>	<u>A</u>	<u>A</u>	<u>F</u>	<u>I</u>	<u>S</u>	R	F	T	I	S	R	<u>D</u>	<u>N</u>	S	K	N	T	L	Y
81	L	Q	M	N	<u>G</u>	<u>L</u>	<u>Q</u>	<u>A</u>	<u>Z</u>	<u>V</u>	<u>S</u>	<u>A</u>	<u>I</u>	<u>Y</u>	<u>Y</u>	<u>C</u>	<u>A</u>	<u>R</u>	<u>D</u>	<u>A</u>
80	L	Q	M	N	<u>S</u>	<u>L</u>	<u>Q</u>	<u>A</u>	<u>E</u>	<u>D</u>	<u>T</u>	<u>A</u>	<u>I</u>	<u>Y</u>	<u>Y</u>	<u>C</u>	<u>A</u>	<u>R</u>	<u>A</u>	
101	G	P	Y	V	S	P	T	F	F	A	H	W	G	Q	G	T	L	V	T	V
99	<u>G</u>	<u>D</u>	<u>Y</u>		<u>N</u>	<u>Y</u>	<u>D</u>	<u>G</u>	<u>F</u>	<u>A</u>	<u>Y</u>	W	G	Q	G	T	L	V	T	V
121	S	S																		
118	S	S																		

FIGURE 26B

vc13

10	20	30	40	50	60
TTCTGCTGGT	ACCAGTACAT	GAAACTTACA	CTTGAGCTGC	CACTGCAGGT	GATGGTGACG
70	80	90	100		
CGGTCACCCA	CTGAGGCACT	GAGGCTAGAT	GGAGACTGGG	TCATTTG	

vc14

10	20	30	40	50	60
CATGTACTGG	TACCAGCAGA	AGCCAGGAAA	AGCTCCGAAA	CTTCTGATTT	ATGACACATC
70	80	90	100	110	120
CAACCTGGCT	TCTGGAGTCC	CTTCCCGCTT	CAGTGGCAGT	GGGTCTGGGA	CCGATTACAC
130					
CTTTACAATC	TCTTCA				

vc15

10	20	30	40	50	60
TGTGTCTAGA	AAAGTGTACT	TACGTTTTAC	CTCGACCTTG	GTCCCTTGAC	CGAACGTGAG
70	80	90	100	110	120
CGGGTAAGTA	CTCCACTGCT	GGCAGTAATA	AGTGGCTATA	TCTTCCGGCT	GAAGTGAAGA
130					
GATTGTAAAG	GTGTAAT				

vc16

10	20	30	40	50	60
CACATCTAGA	CCACCATGGA	TTTTCAAGTG	CAGATCTTCA	GCTTCCTGCT	AATCAGTGCC
70	80	90	100		
TCAGTCATAC	TGTCCAGAGG	AGATATTCAA	ATGACCCAGT	CTCCATCT	

FIGURE 27A

vc11

10	20	30	40	50	60
TAGTCTGTCG	ACCCACCACT	CCATATCACT	CCCACCCACT	CGAGTCCCTT	TCCAGGAGCC
70	80	90	100	110	120
TGGCGGACCC	AGTGTACACC	ATAACTTGTT	ACGGTGAAAC	CACTGGCGGC	ACAAGACAGT
130					
CTCAGAGATC	CTCCTGGC				

vc12

10	20	30	40	50	60
TGGTGGGTCG	ACAGACTATA	ATGCAGCTTT	CATATCCAGA	TTTACCATCA	GCAGAGACAA
70	80	90	100	110	120
CAGCAAGAAC	AACTGTATC	TCCAAATGAA	TAGCCTGCAA	GCCGAGGACA	CAGCCATATA

TTATTG

wps54

10	20	30	40	50	60
AACTCTAGA	CCACCATGGC	TGTCTTGGGG	CTGCTCTTCT	GCCTGGTGAC	ATTCCCAAGC
70	80	90	100	110	120
TGTGTCCTAT	CCGCTGTCCA	GCTGCTAGAG	AGTGGTGGCG	GTCTGGTGCA	GCCAGGAGGA
130					
TCTCTGAGAC					

wps57

10	20	30	40	50	60
AACTCTAGA	AGTTAGGACT	CACCTGAAGA	GACAGTGACC	AGAGTCCCTT	GGCCCCAGTA
70	80	90	100	110	
AGCAAAACCG	TCGTAATTAT	AGTCCCCAGC	TCTGGCACAA	TAATATATGG	CTGTGTCC

FIGURE 27B

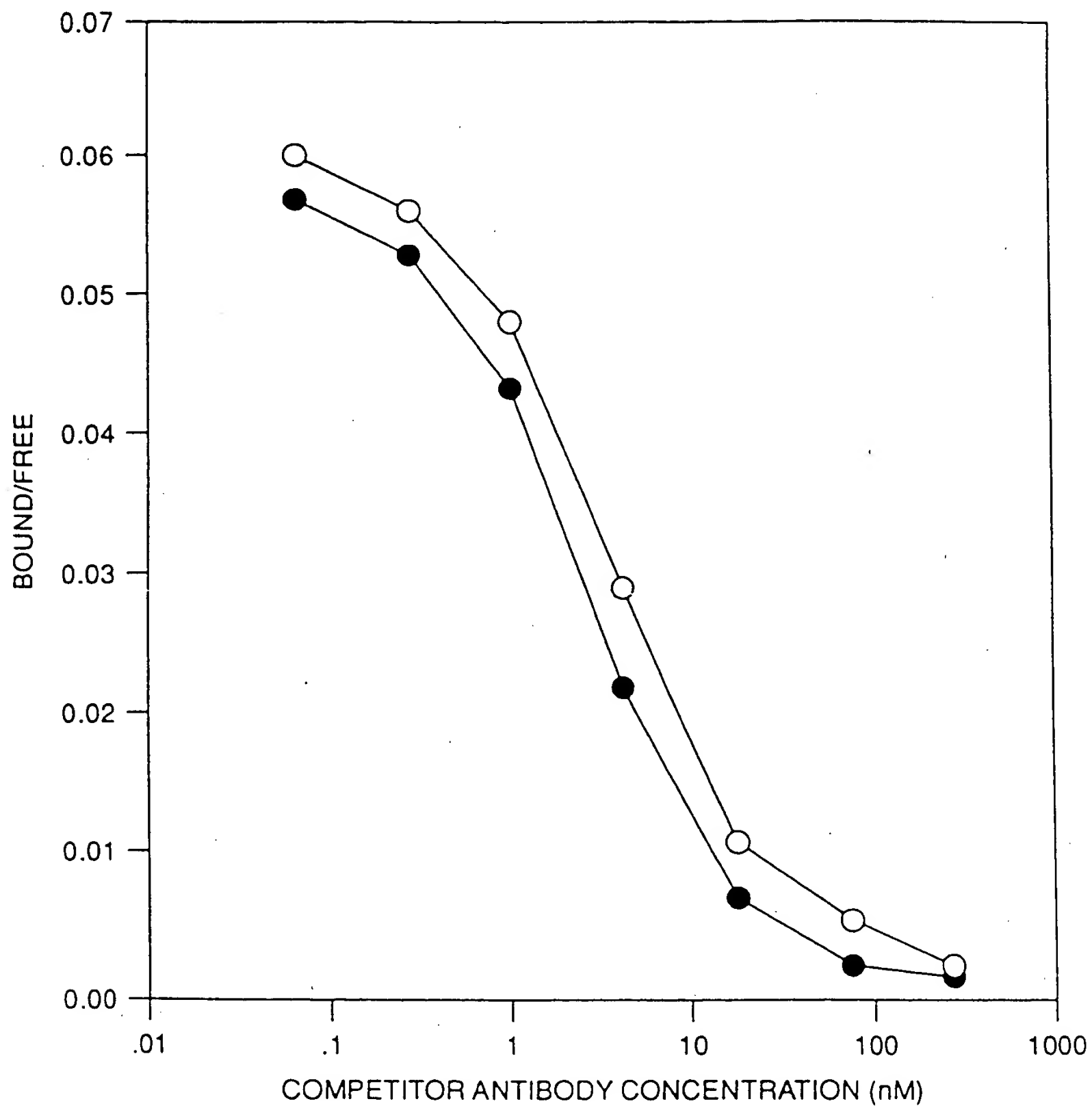


FIGURE 28

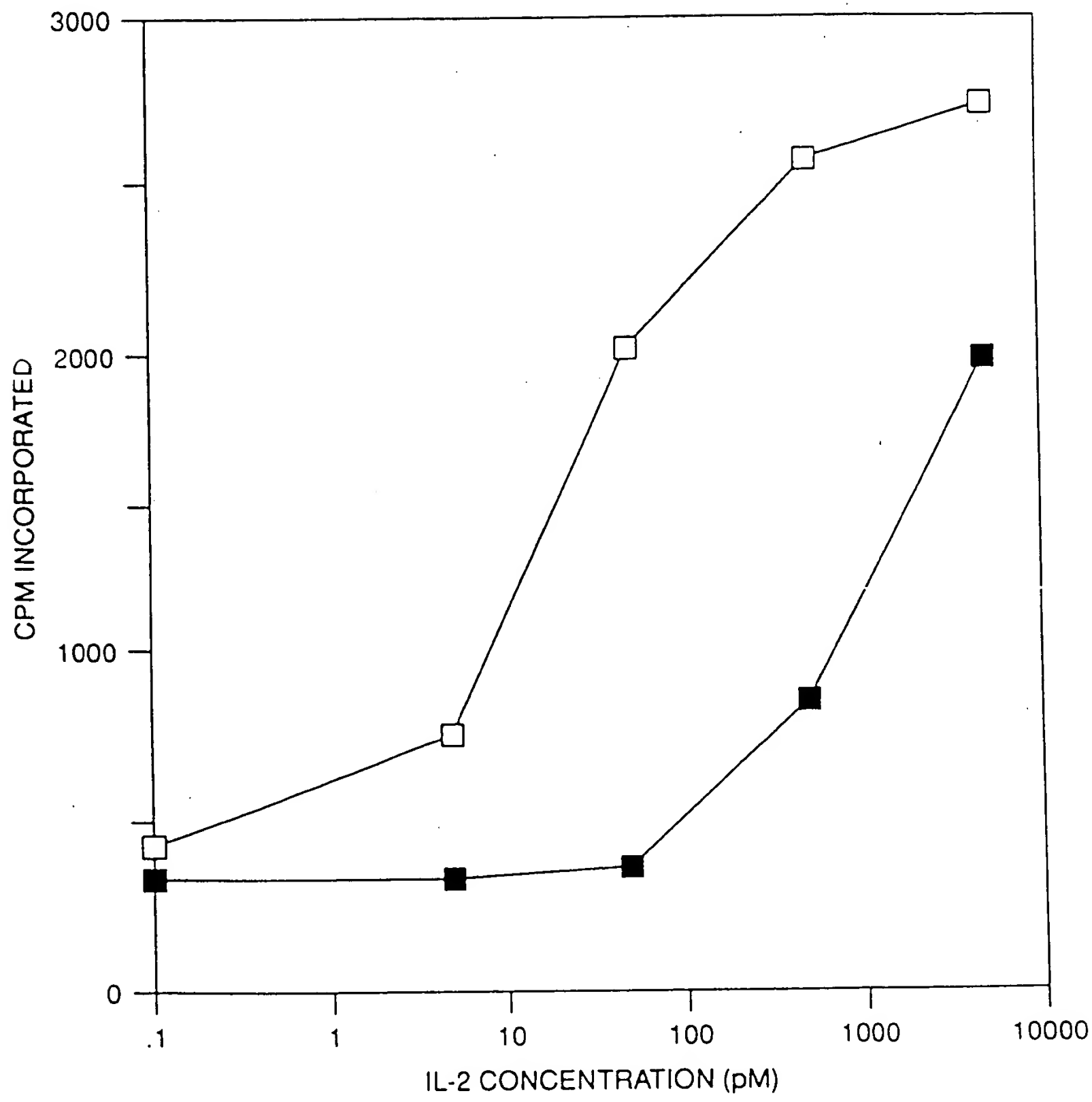


FIGURE 29



	1		5		10		15		20											
1	E	M	I	L	V	E	S	G	G	G	L	V	K	P	G	A	S	L	K	L
1	E	V	Q	L	L	E	S	G	G	G	L	V	Q	P	G	G	S	L	R	L
				25					30		35								40	
21	S	C	A	A	S	G	F	T	F	S	N	Y	G	L	S	W	V	R	Q	T
21	S	C	A	A	S	G	F	T	F	S	N	Y	G	L	S	W	V	R	Q	A
				45					50		52 a					55				
41	S	D	R	R	L	E	W	V	A	S	I	S	R	G	G	G	R	I	Y	S
41	P	G	K	G	L	E	W	V	A	S	I	S	R	G	G	G	R	I	Y	S
				60				65		70						75				
60	P	D	N	L	K	G	R	F	T	I	S	R	E	D	A	K	N	T	L	Y
60	P	D	N	L	K	G	R	F	T	I	S	R	N	D	S	K	N	T	L	Y
				80		82 a b c			85				90					95		
80	L	Q	M	S	S	L	K	S	E	D	T	A	L	Y	Y	C	L	R	E	G
80	L	Q	M	N	S	L	Q	A	E	D	T	A	L	Y	Y	C	L	R	E	G
				100 a b c d k					105				110							
97	I	Y	Y	A	D	Y	G	F	F	D	V	W	G	T	G	T	T	V	I	V
97	I	Y	Y	A	D	Y	G	F	F	D	V	W	G	Q	G	T	L	V	T	V
				113																
112	S	S																		
112	S	S																		

FIGURE 30A

	1		5		10		15		20											
1	D	I	V	L	T	Q	S	P	A	S	L	A	V	S	L	G	Q	R	A	T
1	E	I	V	M	T	Q	S	P	A	T	L	S	V	S	P	G	E	R	A	T
				25					27 a b c d		30								35	
21	I	S	C	R	A	S	Q	S	V	S	T	S	T	Y	N	Y	M	H	W	Y
21	L	S	C	R	A	S	Q	S	V	S	T	S	T	Y	N	Y	M	H	W	Y
				40				45					50				55			
37	Q	Q	K	P	G	Q	P	P	K	L	L	I	K	Y	A	S	N	L	E	S
37	Q	Q	K	P	G	Q	S	P	R	L	L	I	K	Y	A	S	N	L	E	S
				60				65					70				75			
57	G	V	P	A	R	F	S	G	S	G	F	G	T	D	F	T	L	N	I	H
57	G	I	P	A	R	F	S	G	S	G	S	G	T	E	F	T	L	T	I	S
				80				85					90				95			
77	P	V	E	E	E	D	T	V	T	Y	Y	C	Q	H	S	W	E	I	P	Y
77	R	L	E	S	E	D	F	A	V	Y	Y	C	Q	H	S	W	E	I	P	Y
				100				105		107										
97	T	F	G	G	G	T	K	L	E	I	K									
97	T	F	G	Q	G	T	R	V	E	I	K									

FIGURE 30B



	1				5					10					15					20
1	Q	V	Q	L	Q	Q	S	D	A	E	L	V	K	P	G	A	S	V	K	I
1	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	S	S	V	K	V
					25					30					35					40
21	S	C	K	V	S	G	Y	T	F	T	D	H	T	I	H	W	M	K	Q	R
21	S	C	K	A	S	G	<u>Y</u>	T	F	<u>T</u>	D	H	T	I	H	W	<u>M</u>	R	Q	A
					45					50	52	a			55					
41	P	E	Q	G	L	E	W	F	G	Y	I	Y	P	R	D	G	H	T	R	Y
41	P	G	Q	G	L	E	W	<u>F</u>	G	Y	I	Y	P	R	D	G	H	T	R	Y
					60				65				70			75				
60	S	E	K	F	K	G	K	A	T	L	T	A	D	K	S	A	S	T	A	Y
60	A	E	K	F	K	G	<u>K</u>	<u>A</u>	T	I	T	A	D	E	S	T	N	T	A	Y
					80	82	a	b	c		85				90				95	
80	M	H	L	N	S	L	T	S	E	D	S	A	V	Y	F	C	A	R	G	R
80	M	E	L	S	S	L	R	S	E	D	T	A	<u>V</u>	Y	F	C	A	<u>R</u>	G	R
					100	a	b	c	d				105					110		
97	D	S	R	E	R	N	G	F	A	Y	W	G	Q	G	T	L	V	T	V	S
97	D	S	R	E	R	N	G	F	A	Y	<u>W</u>	<u>G</u>	<u>Q</u>	G	<u>T</u>	L	V	T	V	S
					113															
113	A																			
113	S																			

FIGURE 20C

[illegible]

AGENT & TRADEMARK

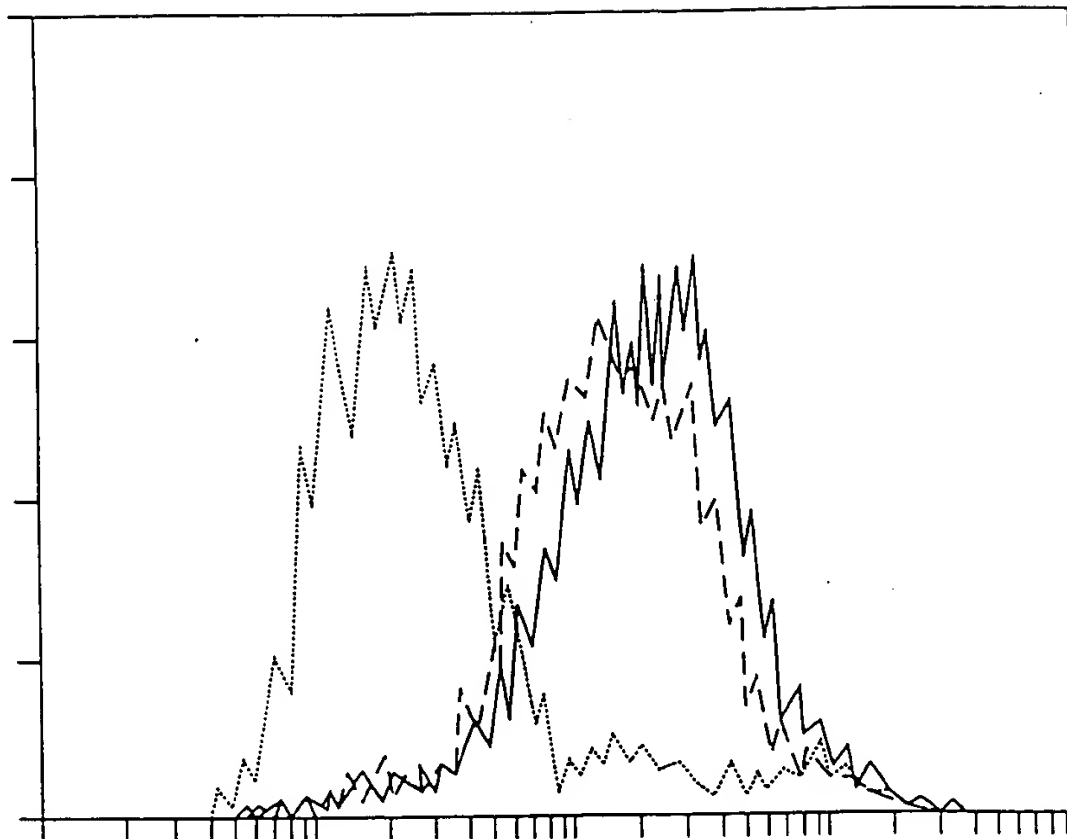


FIGURE 31A

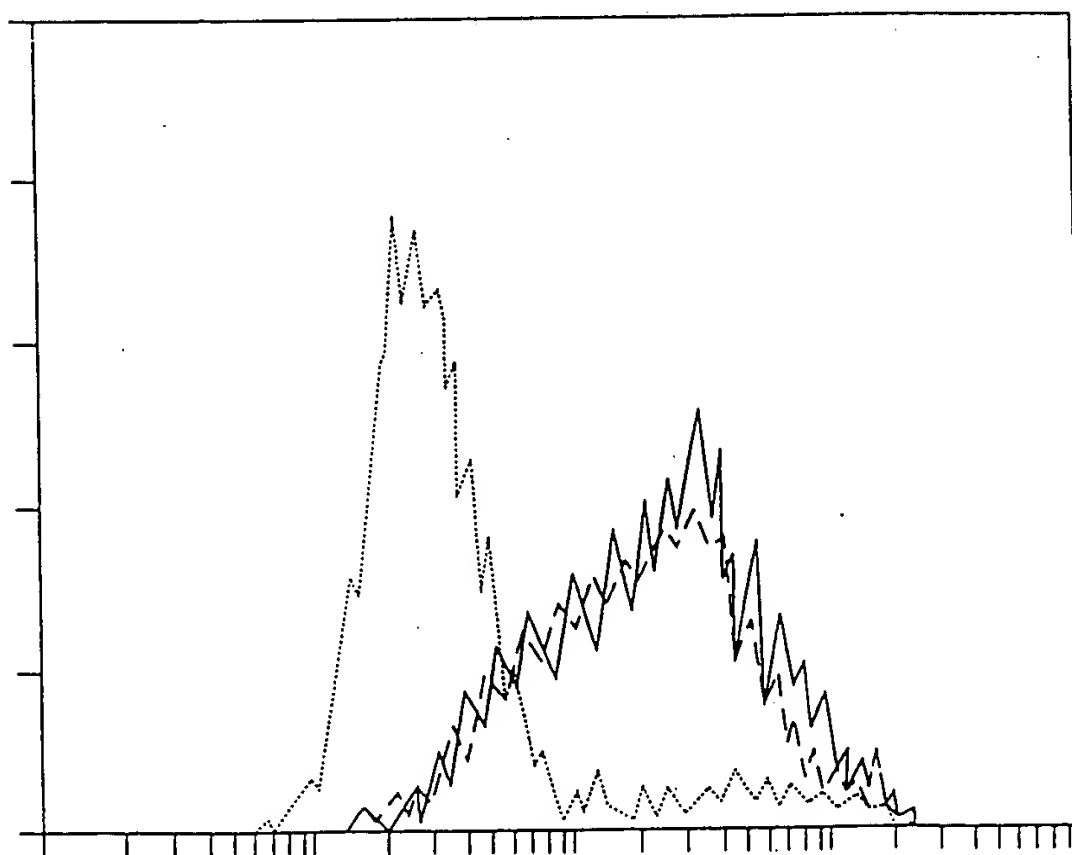


FIGURE 31B

PATENT & TRADEMARK OFFICE 91  
JUN 28 2004

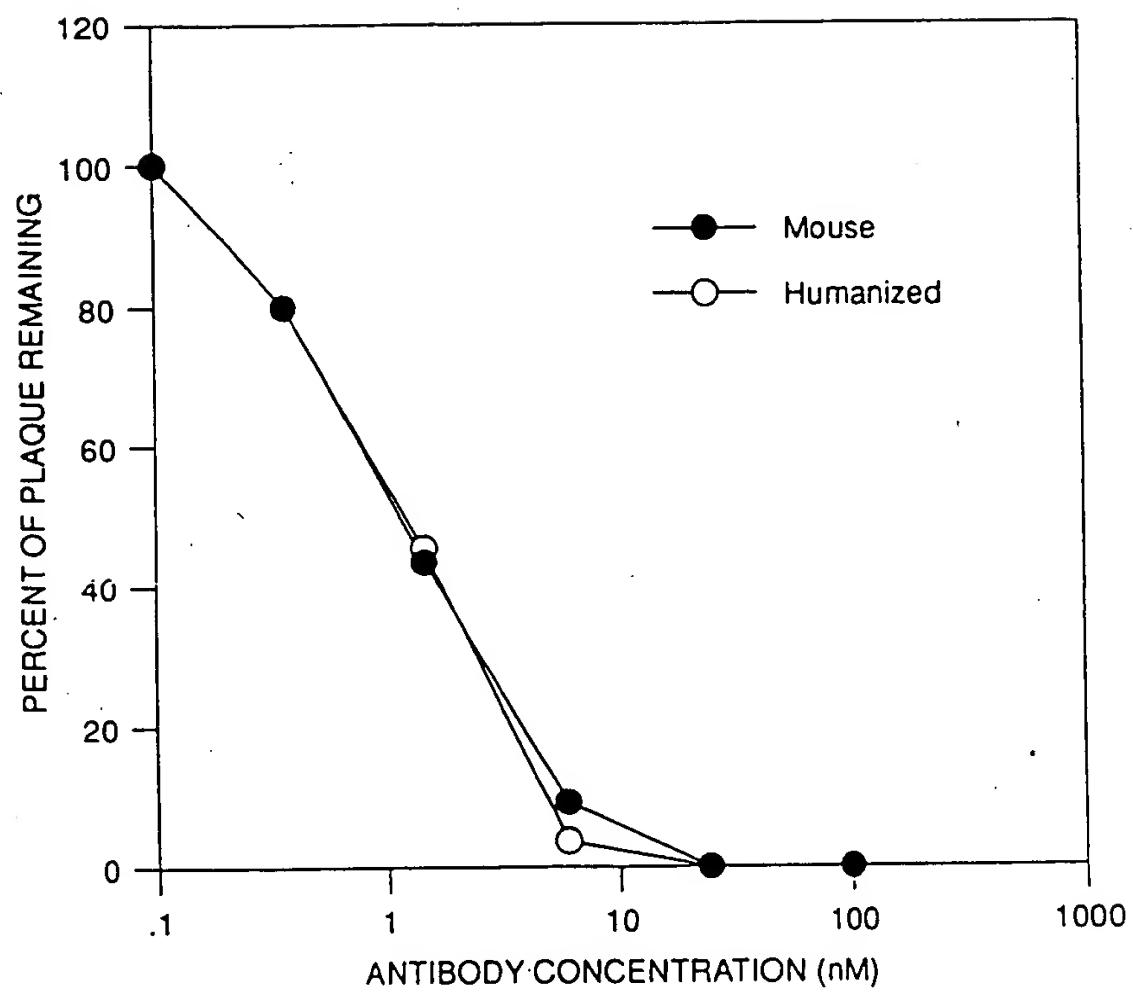


FIGURE 32A

JUN 2 8 40  
PATENT & TRADEMARK OFFICE

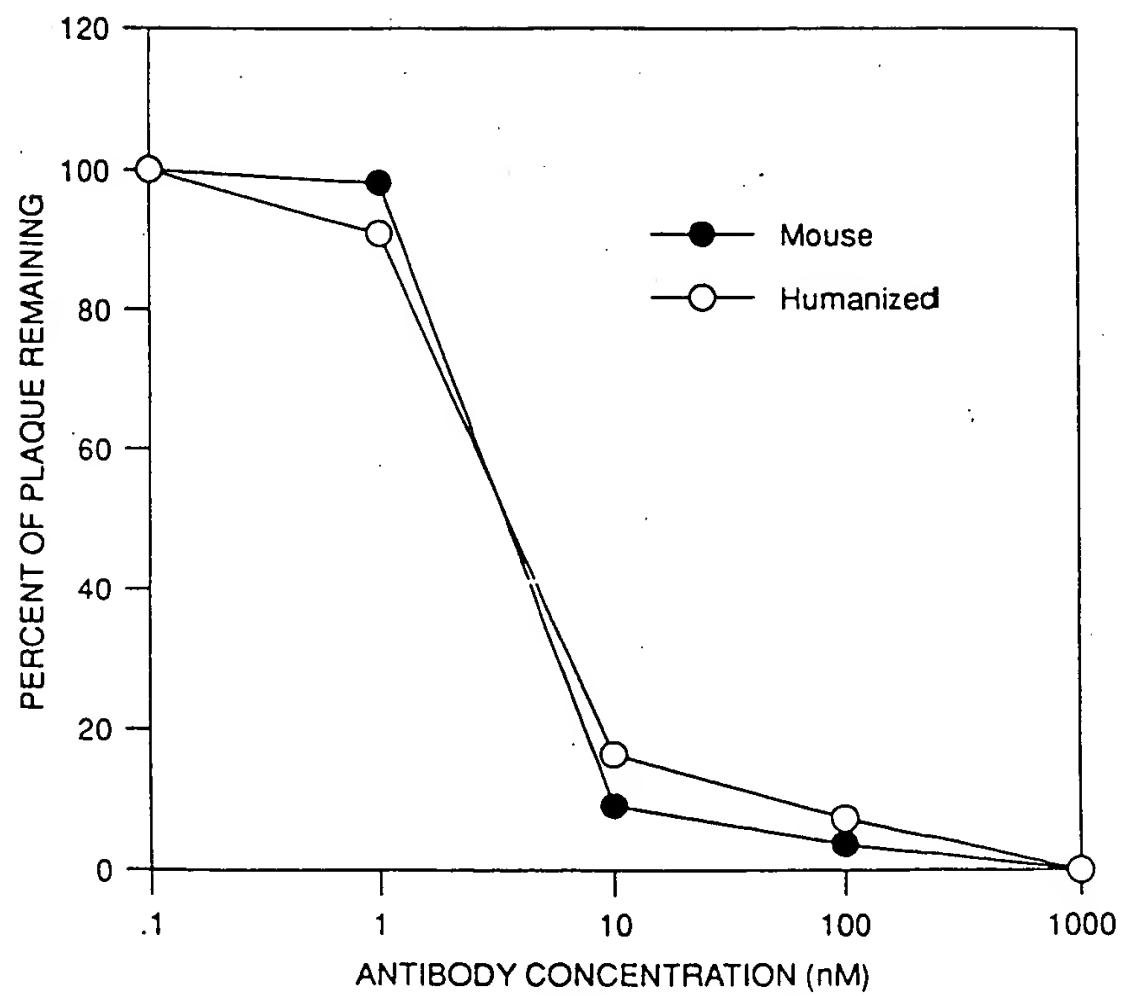


FIGURE 32B

BEST AVAILABLE COPY

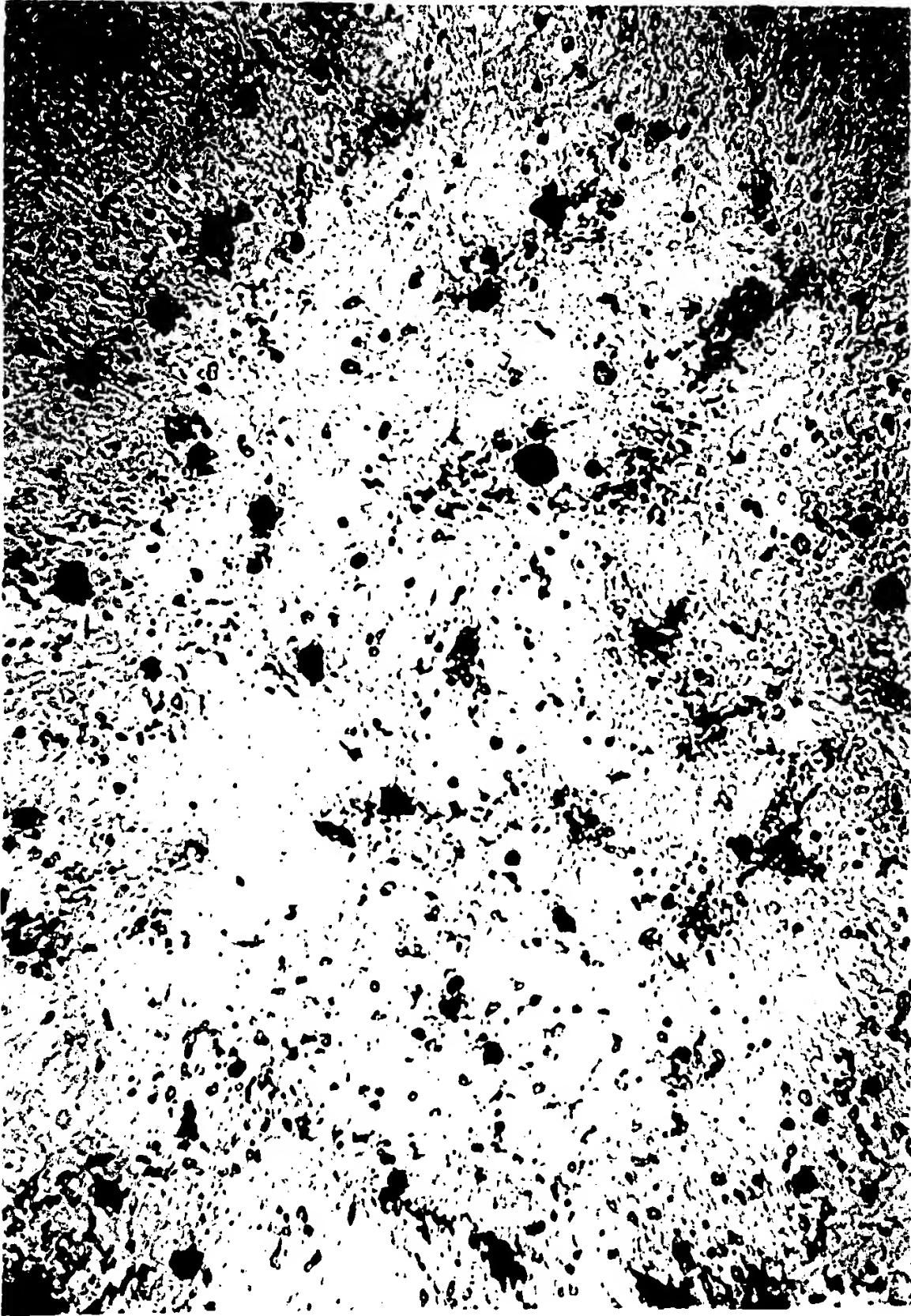


FIGURE 33A

22783 U.S. PTO



062804

BEST AVAILABLE COPY

FIGURE 33B



REPLACEMENT SHEET

783 U.S. PTO



062804

30 60  
ATGGAGAAAGACACACTCCTGCTATGGGTCCTGCTTCTCTGGGTTCCAGGTTCCACAGGT  
M E K D T L L L W V L L L W V P G S T G

90 120  
GACATTGTGCTGACCCAATCTCCAGCTTCTTTGGCTGTGTCTCTAGGGCAGAGGGCCACC  
D I V L T Q S P A S L A V S L G Q R A T

150 180  
ATCTCCTGCAGAGCCAGCGAAAGTGTGATAATTATGGCATTAGTTTTATGAACTGGTTC  
I S C R A S E S V D N Y G I S F M N W F

210 240  
CAACAGAAACCAGGACAGCCACCCAACTCCTCATCTATGCTGCATCCAACCAAGGATCC  
Q Q K P G Q P P K L L I Y A A S N Q G S

270 300  
GGGGTCCCTGCCAGGTTTAGTGGCAGTGGGTCTGGGACAGACTTCAGCCTCAACATCCAT  
G V P A R F S G S G S G T D F S L N I H

330 360  
CCTATGGAGGAGGATGATACTGCAATGTATTTCTGTCAGCAAAGTAAGGAGGTTCCGTGG  
P M E E D D T A M Y F C Q Q S K E V P W

390  
ACGTTCGGTGGAGGCACCAAGCTGGAAATCAAA  
T F G G G T K L E I K

FIGURE 34A

30 60  
ATGGGATGGAGCTGGATCTTTCTCTTCCTCCTGTCAGGAAGTGCAGGCGTCCACTCTGAG  
M G W S W I F L F L L S G T A G V H S E

90 120  
GTCCAGCTTCAGCAGTCAGGACCTGAGCTGGTGAAACCTGGGGCCTCAGTGAAGATATCC  
V Q L Q Q S G P E L V K P G A S V K I S

150 180  
TGCAAGGCTTCTGGATACACATTCAGTACTACAACATGCACTGGGTGAAGCAGAGCCAT  
C K A S G Y T F T D Y N M H W V K Q S H

210 240  
GGAAAGAGCCTTGAGTGGATTGGATATATTTATCCTTACAATGGTGGTACTGGCTACAAC  
G K S L E W I G Y I Y P Y N G G T G Y N

270 300  
CAGAAGTTCAAGAGCAAGGCCACATTGACTGTAGACAATTCCTCCAGCACAGCCTACATG  
Q K F K S K A T L T V D N S S S T A Y M

330 360  
GACGTCCGCAGCCTGACATCTGAGGACTCTGCAGTCTATTACTGTGCAAGAGGGCGCCCC  
D V R S L T S E D S A V Y Y C A R G R P

390  
GCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA  
A M D Y W G Q G T S V T V S S

FIGURE 34B

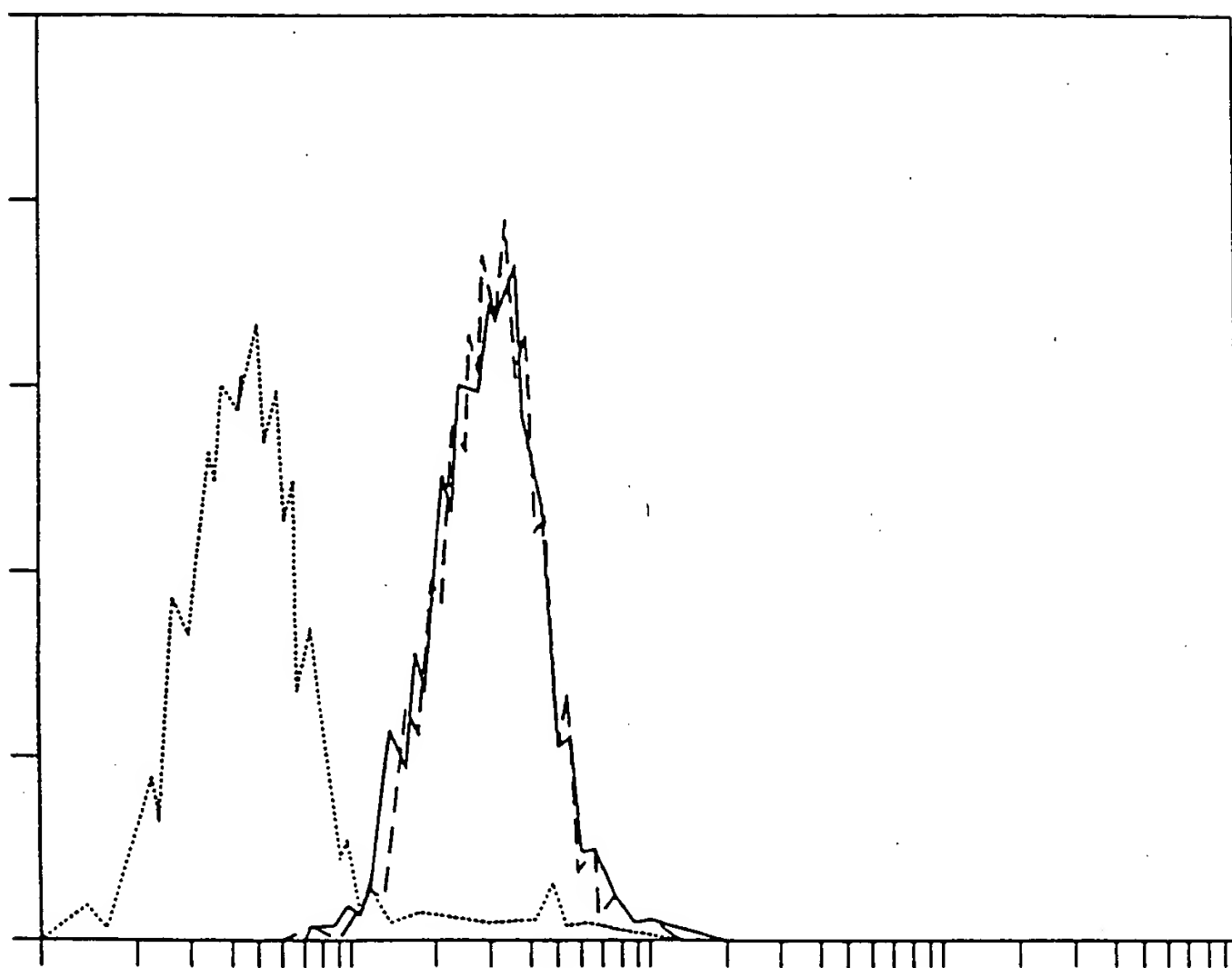


FIGURE 35

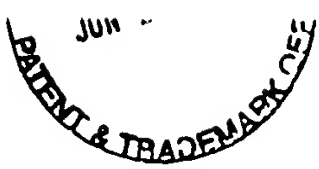


1	D	I	Q	M	T	Q	S	P	S	T	L	S	A	S	V	G	D	R	V	T
1	D	I	Q	M	T	Q	S	P	S	<u>S</u>	L	S	A	S	V	G	D	R	V	T
21	I	T	C	R	A	S	Q	S		I	N				T	W	L	A	W	Y
21	I	T	C	<u>R</u>	<u>A</u>	<u>S</u>	<u>E</u>	<u>S</u>	<u>V</u>	<u>D</u>	<u>N</u>	<u>Y</u>	<u>G</u>	<u>I</u>	<u>S</u>	<u>F</u>	<u>M</u>	<u>N</u>	<u>W</u>	<u>F</u>
37	Q	Q	K	P	G	K	A	P	K	L	L	M	Y	K	A	S	S	L	E	S
41	Q	Q	K	P	G	K	A	P	K	L	L	<u>I</u>	Y	<u>A</u>	<u>A</u>	<u>S</u>	<u>N</u>	<u>Q</u>	<u>G</u>	<u>S</u>
57	G	V	P	S	R	F	I	G	S	G	S	G	T	E	F	T	L	T	I	S
61	G	V	P	S	R	F	<u>S</u>	G	S	G	S	G	T	<u>D</u>	F	T	L	T	I	S
77	S	L	Q	P	D	D	F	A	T	Y	Y	C	Q	Q	Y	N	S	D	S	K
81	S	L	Q	P	D	D	F	A	T	Y	Y	C	<u>Q</u>	<u>Q</u>	<u>S</u>	<u>K</u>	<u>E</u>	<u>V</u>	<u>P</u>	<u>W</u>
97	M	F	G	Q	G	T	K	V	E	V	K									
101	<u>T</u>	F	G	Q	G	T	K	V	E	<u>I</u>	K									

FIGURE 36A

1	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	S	S	V	K	V
1	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	S	S	V	K	V
21	S	C	K	A	S	G	G	T	F	S	R	S	A	I	I	W	V	R	Q	A
21	S	C	K	A	S	G	<u>Y</u>	T	F	<u>T</u>	<u>D</u>	<u>Y</u>	<u>N</u>	<u>M</u>	<u>H</u>	W	V	R	Q	A
41	P	G	Q	G	L	E	W	M	G	G	I	V	P	M	F	G	P	P	N	Y
41	P	G	Q	G	L	E	W	<u>I</u>	G	<u>Y</u>	<u>I</u>	<u>Y</u>	<u>P</u>	<u>Y</u>	<u>N</u>	<u>G</u>	<u>G</u>	<u>T</u>	<u>G</u>	<u>Y</u>
61	A	Q	K	F	Q	G	R	V	T	I	T	A	D	E	S	T	N	T	A	Y
61	<u>N</u>	<u>Q</u>	<u>K</u>	<u>F</u>	<u>K</u>	<u>S</u>	<u>K</u>	<u>A</u>	<u>T</u>	I	T	A	D	E	S	T	N	T	A	Y
81	M	E	L	S	S	L	R	S	E	D	T	A	F	Y	F	C	A	G	G	Y
81	M	E	L	S	S	L	R	S	E	D	T	A	<u>V</u>	<u>Y</u>	<u>Y</u>	C	A	<u>R</u>	<u>G</u>	
101	G	I	Y	S	P	E	E	Y	N	G	G	L	V	T	V	S	S			
100	<u>R</u>	<u>P</u>	<u>A</u>	<u>M</u>	<u>D</u>	<u>Y</u>	<u>W</u>	<u>G</u>	<u>Q</u>	<u>G</u>	<u>T</u>	<u>L</u>	<u>V</u>	<u>T</u>	<u>V</u>	<u>S</u>	<u>S</u>			

FIGURE 36BA



ma1

```
      10      20      30      40      50      60
TATATCTAGA CCACCATGGG ATGGAGCTGG ATCTTTCTCT TCCTCCTGTC AGGAACTGCT

      70      80      90     100     110     120
GGCGTCCACT CTCAGGTTCA GCTGGTGCAG TCTGGAGCTG AGGTGAAGAA GCCTGGGAGC

      130
TCAGTGAAGG TT
```

ma2

```
      10      20      30      40      50      60
AGCCGGTACC ACCATTGTAA GGATAAATAT ATCCAATCCA TTCCAGGCCT TGGCCAGGAG

      70      80      90     100     110     120
CCTGCCTCAC CCAGTGCATG TTGTAGTCAG TGAAGGTGTA GCCAGAAGCT TTGCAGGAAA

      130
CCTTCACTGA GCT
```

ma3

```
      10      20      30      40      50      60
TGGTGGTACC GGCTACAACC AGAAGTTCAA GAGCAAGGCC ACAATTACAG CAGACGAGAG

      70      80      90     100     110
TACTAACACA GCCTACATGG AACTCTCCAG CCTGAGGTCT GAGGACACTG CA
```

ma4

```
      10      20      30      40      50      60
TATATCTAGA GGCCATTCTT ACCTGAAGAG ACAGTGACCA GAGTCCCTTG GCCCCAGTAG

      70      80      90     100     110
TCCATAGCGG GGCGCCCTCT TGCGCAGTAA TAGACTGCAG TGTCCTCAGA C
```

FIGURE 37A



ma5

10	20	30	40	50	60
TATATCTAGA	CCACCATGGA	GAAAGACACA	CTCCTGCTAT	GGGTCCTGCT	TCTCTGGGTT
70	80	90	100	110	120
CCAGGTTCCA	CAGGTGACAT	TCAGATGACC	CAGTCTCCGA	GCTCTCTGTC	CGCATCAGTA

GG

ma6

10	20	30	40	50	60
TCAGAAGCTT	AGGAGCCTTC	CCGGGTTTCT	GTTGGAACCA	G TTCATAAAG	CTAATGCCAT
70	80	90	100	110	120
AATTGTCGAC	ACTTTCGCTG	GCTCTGCATG	TGATGGTGAC	CCTGTCTCCT	ACTGATGCGG

AC

ma7

10	20	30	40	50	60
TCCTAAGCTT	CTGATTTACG	CTGCATCCAA	CCAAGGCTCC	GGGGTACCCT	CTCGCTTCTC
70	80	90	100	110	
AGGCAGTGGA	TCTGGGACAG	ACTTCACTCT	CACCATTTC	TCTCTGCAGC	CTGATGACT

ma8

10	20	30	40	50	60
TATATCTAGA	CTTTGGATTC	TACTTACGTT	TGATCTCCAC	CTTGGTCCCT	TGACCGAACG
70	80	90	100	110	
TCCACGGAAC	CTCCTTACTT	TGCTGACAGT	AATAGGTTGC	GAAGTCATCA	GGCTGCAG

FIGURE 37B

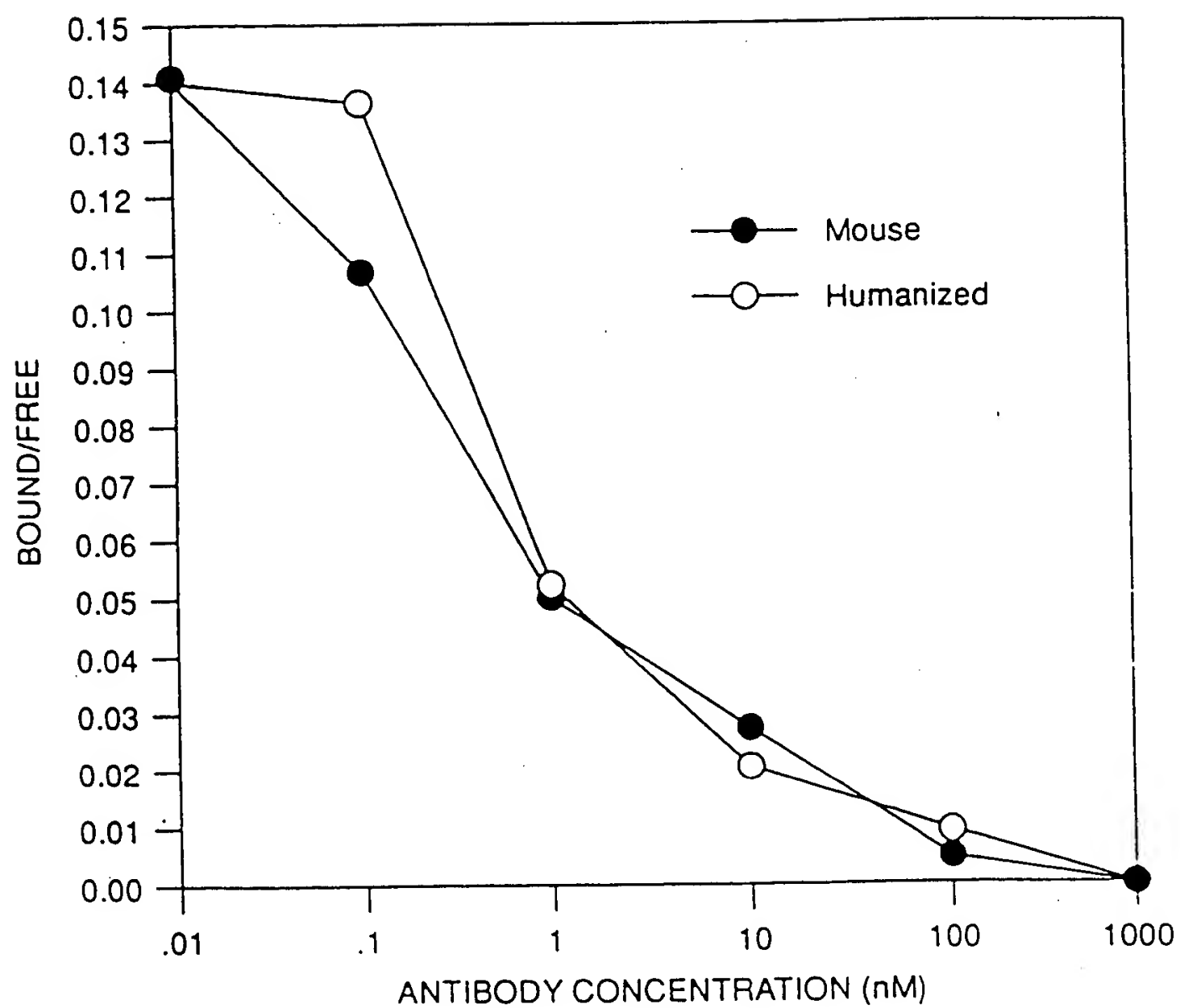


FIGURE 38

30 60  
 ATGGTTTTCACACCTCAGATACTTGGACTTATGCTTTTTTGGATTTCAGCCTCCAGAGGT  
 M V F T P Q I L G L M L F W I S A S R G  
 90 120  
 GATATTGTGCTAACTCAGTCTCCAGCCACCCTGTCTGTGACTCCGGGAGATAGCGTCAGT  
 D I V L T Q S P A T L S V T P G D S V S  
 150 180  
 CTTTCCTGCAGGGCCAGCCAAAGTATTAGCAACAACCTACACTGGTATCAACAAAAATCA  
 L S C R A S Q S I S N N L H W Y Q Q K S  
 210 240  
 CATGAGTCTCCAAGGCTTCTCATCAAGTATGCTTCCCAGTCCATCTCTGGGATCCCCTCC  
 H E S P R L L I K Y A S Q S I S G I P S  
 270 300  
 AGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACTCTCAGTGTCAACGGTGTGGAGACT  
 R F S G S G S G T D F T L S V N G V E T  
 330 360  
 GAAGATTTTGAATGTATTTCTGTCAACAGAGTAACAGTTGGCCTCATACGTTTCGGAGGG  
 E D F G M Y F C Q Q S N S W P H T F G G  
 GGGACCAAGCTGGAAATAAAA  
 G T K L E I K

FIGURE 39A

30 60  
 ATGGGATGGAGCTGGATCTTTCTCTTCCTCCTGTCAGGAACTGCAGGTGTCCACTCTGAG  
 M G W S W I F L F L L S G T A G V H S E  
 90 120  
 GTCCAGCTGCAACAGTCTGGACCTGAGCTGGTGAAGCCTGGAGCTTCAATGAAGATATCC  
 V Q L Q Q S G P E L V K P G A S M K I S  
 150 180  
 TGCAAGGCTTCTGTTTACTCATTCCTGCTACACCATGAACTGGGTGAAGCAGAGCCAT  
 C K A S V Y S F T G Y T M N W V K Q S H  
 210 240  
 GGACAGAACCTTGAGTGGATTGGACTTATTAATCCTTACAATGGTGGTACTAGCTACAAC  
 G Q N L E W I G L I N P Y N G G T S Y N  
 270 300  
 CAGAAGTTCAAGGGGAAGGCCACATTAAGTGTAGACAAGTCATCCAACACAGCCTACATG  
 Q K F K G K A T L T V D K S S N T A Y M  
 330 360  
 GAGCTCCTCAGTCTGACATCTGCGGACTCTGCAGTCTATTACTGTACAAGACGGGGGTTT  
 E L L S L T S A D S A V Y Y C T R R G F  
 390  
 CGAGACTATTCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA  
 R D Y S M D Y W G Q G T S V T V S S

FIGURE 39B

1	E	I	V	L	T	Q	S	P	G	T	L	S	L	S	P	G	E	R	A	T
1	E	I	V	L	T	Q	S	P	G	T	L	S	L	S	P	G	E	R	A	T
21	L	S	C	R	A	S	Q	S	V	S	S	G	Y	L	G	W	Y	Q	Q	K
21	L	S	C	<u>R</u>	<u>A</u>	<u>S</u>	<u>Q</u>	<u>S</u>		<u>I</u>	<u>S</u>	<u>N</u>	<u>N</u>	<u>L</u>	<u>H</u>	W	Y	Q	Q	K
41	P	G	Q	A	P	R	L	L	I	Y	G	A	S	S	R	A	T	G	I	P
40	P	G	Q	A	P	R	L	L	I	<u>K</u>	<u>Y</u>	<u>A</u>	<u>S</u>	<u>Q</u>	<u>S</u>	<u>I</u>	<u>S</u>	G	I	P
61	D	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	R	L	E
60	D	R	F	S	G	S	G	S	G	T	D	F	T	L	T	I	S	R	L	E
81	P	E	D	F	A	V	Y	Y	C	Q	Q	Y	G	S	L	G	R	T	F	G
80	P	E	D	F	A	V	Y	Y	C	Q	<u>Q</u>	<u>S</u>	<u>N</u>	<u>S</u>	<u>W</u>	<u>P</u>	<u>H</u>	<u>T</u>	F	G
101	Q	G	T	K	V	E	I	K												
100	Q	G	T	K	V	E	I	K												

FIGURE 40A

1	Q	V	Q	L	M	Q	S	G	A	E	V	K	K	P	G	S	S	V	R	V	
1	Q	V	Q	L	<u>V</u>	Q	S	G	A	E	V	K	K	P	G	S	S	V	R	V	
21	S	C	K	T	S	G	G	T	F	V	D	Y	K	G	L	W	V	R	Q	A	
21	S	C	K	<u>A</u>	S	G	<u>Y</u>	<u>S</u>	<u>F</u>	<u>T</u>	<u>G</u>	<u>Y</u>	<u>T</u>	<u>M</u>	<u>N</u>	W	V	R	Q	A	
41	P	G	K	G	L	E	W	V	G	Q	I	P	L	R	F	N	G	E	V	K	
41	P	G	K	G	L	E	W	V	G	<u>L</u>	<u>I</u>	<u>N</u>	<u>P</u>	<u>Y</u>	<u>N</u>	<u>G</u>	<u>G</u>	<u>T</u>	<u>S</u>	<u>Y</u>	
61	N	P	G	S	V	V	R	V	S	V	S	L	K	P	S	F	N	Q	A	H	
61	<u>N</u>	<u>Q</u>	<u>K</u>	<u>F</u>	<u>K</u>	<u>G</u>	<u>R</u>	<u>V</u>	<u>T</u>	V	S	L	K	P	S	F	N	Q	A	<u>Y</u>	
81	M	E	L	S	S	L	F	S	E	D	T	A	V	Y	Y	C	A	R	E	Y	
81	M	E	L	S	S	L	F	S	E	D	T	A	V	Y	Y	C	<u>T</u>	<u>R</u>	<u>R</u>		
101	G	F	D	T	S	D	Y	Y	Y	Y	Y	W	G	Q	G	T	L	V	T	V	
100	<u>G</u>	<u>F</u>				<u>R</u>	<u>D</u>	<u>Y</u>	<u>S</u>	<u>M</u>	<u>D</u>	<u>Y</u>	W	G	Q	G	T	L	V	T	V
121	S	S																			
118	S	S																			

FIGURE 40B



jb16

10 20 30 40 50 60  
TAGATCTAGA CCACCATGGT TTTCACACCT CAGATACTAG GACTCATGCT CTTCTGGATT  
70 80 90 100 110 120  
TCAGCCTCCA GAGGTGAAAT TGTGCTAACT CAGTCTCCAG GCACCCTAAG CTTATCACCG  
GGAGAAAGG

jb17

10 20 30 40 50 60  
TAGACAGAAT TCACGCGTAC TTGATAAGTA GACGTGGAGC TTGTCCAGGT TTTTGTTGGT  
70 80 90 100 110 120  
ACCAGTGTAG GTTGTTGCTA ATACTTTGGC TGGCCCTGCA GGAAAGTGTA GCCCTTTCTC  
CCGGTGAT

jb18

10 20 30 40 50 60  
AAGAGAATTC ACGCGTCCCA GTCCATCTCT GGAATACCCG ATAGGTTCAG TGGCAGTGGA  
70 80 90 100 110  
TCAGGGACAG ATTTCACTCT CACAATAAGT AGGCTCGAGC CGGAAGATTT TGC

jb19

10 20 30 40 50 60  
TAGATCTAGA GTTGAGAAGA CTA CTACTTACGT TTTATTTCTA CCTTGGTCCC TTGTCCGAAC  
70 80 90 100 110  
GTATGAGGCC AACTGTTACT CTGTTGACAA TAATACACAG CAAAATCTTC CGGCTC

FIGURE 41A

jb20

10	20	30	40	50	60
TATATCTAGA	CCACCATGGG	ATGGAGCTGG	ATCTTTCTCT	TCCTCCTGTC	AGGAACTGCA
70	80	90	100	110	120
GGTGTCCACT	CTCAAGTCCA	ACTGGTACAG	TCTGGAGCTG	AGGTTAAAAA	GCCTGGAAGT
130					
TCAGTAAGAG	TTTC				

jb21

10	20	30	40	50	60
TATATAGGTA	CCACCATTGT	AAGGATTAAT	AAGTCCAACC	CACTCAAGTC	CTTTTCCAGG
70	80	90	100	110	120
TGCCTGTCTC	ACCCAGTTCA	TGGTATACCC	AGTGAATGAG	TATCCGGAAG	CTTTGCAGGA
130					
AACTCTTACT	GAAC				

jb22

10	20	30	40	50	60
TATATAGGTA	CCAGCTACAA	CCAGAAGTTC	AAGGGCAGAG	TTACAGTTTC	TTTGAAGCCT
70	80	90	100	110	
TCATTTAACC	AGGCCTACAT	GGAGCTCAGT	AGTCTGTTTT	CTGAAGACAC	TGCAGT

jb23

10	20	30	40	50	60
TATATCTAGA	GGCCATTCTT	ACCTGAGGAG	ACGGTGACTA	AGGTTCCTTG	ACCCCAGTAG
70	80	90	100	110	
TCCATAGAAT	AGTCTCGAAA	CCCCCGTCTT	GTACAGTAAT	AGACTGCAGT	GTCTTC

**FIGURE 41B**



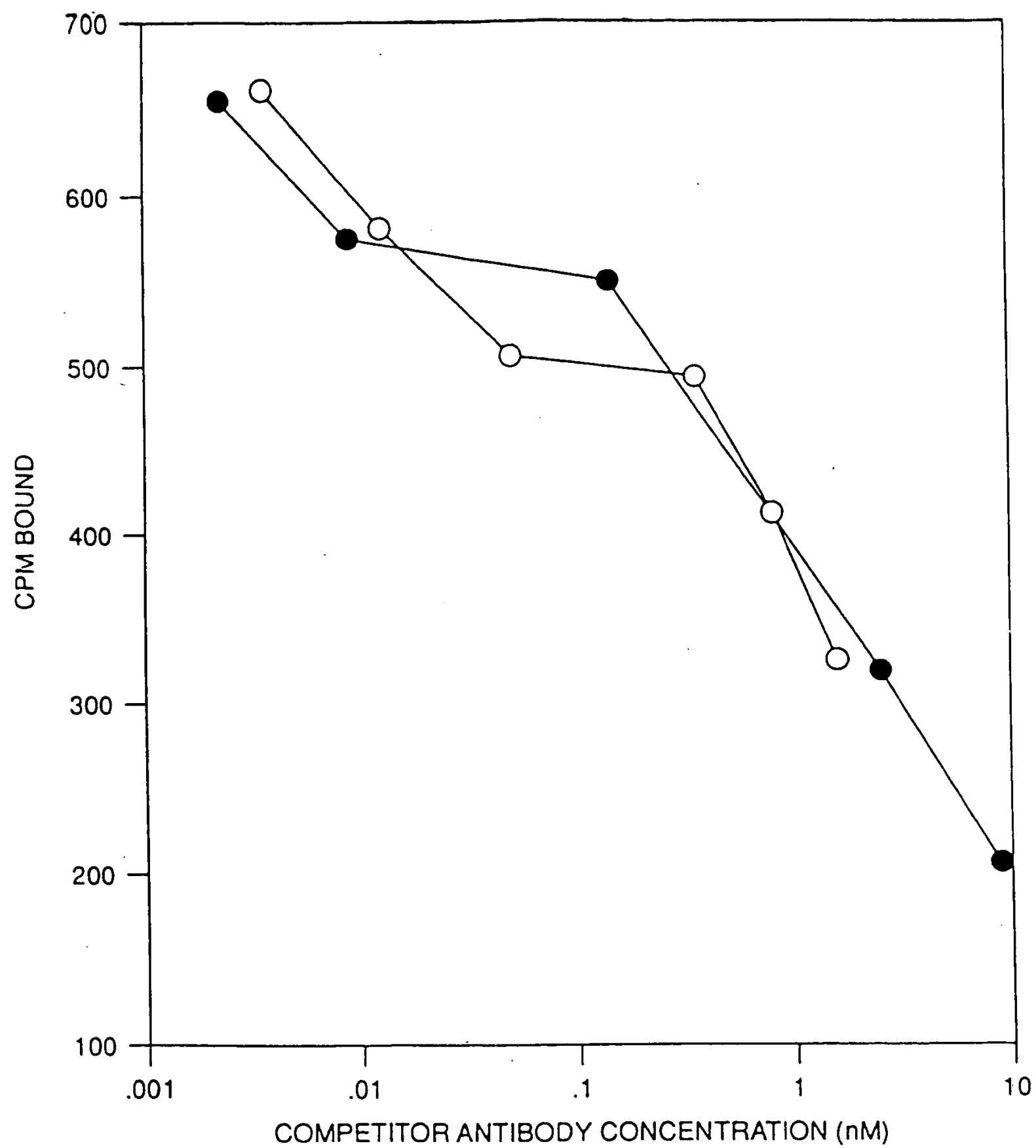


FIGURE 42

30 60  
ATGCATCAGACCAGCATGGGCATCAAGATGGAATCACAGACTCTGGTCTTCATATCCATA  
M H Q T S M G I K M E S Q T L V F I S I

90 120  
CTGCTCTGGTTATATGGTGCTGATGGGAACATTGTTATGACCCAATCTCCCAAATCCATG  
L L W L Y G A D G N I V M T Q S P K S M

150 180  
TACGTGTCAATAGGAGAGAGGGTCACCTTGAGCTGCAAGGCCAGTGAAAATGTGGATACT  
Y V S I G E R V T L S C K A S E N V D T

210 240  
TATGTATCCTGGTATCAACAGAAACCAGAGCAGTCTCCTAAACTGCTGATATATGGGGCA  
Y V S W Y Q Q K P E Q S P K L L I Y G A

270 300  
TCCAACCGGTACACTGGGGTCCACGATCGCTTCACGGGCAGTGGATCTGCAACAGATTTC  
S N R Y T G V H D R F T G S G S A T D F

330 360  
ACTCTGACCATCAGCAGTGTGCAGGCTGAAGACCTTGCAGATTATCACTGTGGACAGAGT  
T L T I S S V Q A E D L A D Y H C G Q S

390  
TACAACCTATCCATTCACGTTCGGCTCGGGGACAAAGTTGGAAATAAAG  
Y N Y P F T F G S G T K L E I K

FIGURE 43A

30 60  
 ATGACATCACTGTTCTCTCTACAGTTACCGAGCACACAGGACCTCGCCATGGGATGGAGC  
 M T S L F S L Q L P S T Q D L A M G W S

90 120  
 TGTATCATCCTCTTCTTGGTAGCAACAGCTACAGGTGTCCTCTCCCAGGTCCAAGTGCAG  
 C I I L F L V A T A T G V L S Q V Q L Q

150 180  
 CAGCCTGGGGCTGACCTTGTGATGCCTGGGGCTCCAGTGAAGCTGTCCTGCTTGGCTTCT  
 Q P G A D L V M P G A P V K L S C L A S

210 240  
 GGCTACATCTTCACCAGCTCCTGGATAAACTGGGTGAAGCAGAGGCCTGGACGAGGCCTC  
 G Y I F T S S W I N W V K Q R P G R G L

270 300  
 GAGTGGATTGGAAGGATTGATCCTTCCGATGGTGAAGTTCCTACTACAATCAAGATTTCAAG  
 E W I G R I D P S D G E V H Y N Q D F K

330 360  
 GACAAGGCCACACTGACTGTAGACAAATCCTCCAGCACAGCCTACATCCAAGTCAACAGC  
D K A T L T V D K S S S T A Y I Q L N S

390 420  
 CTGACATCTGAGGACTCTGCGGTCTATTACTGTGCTAGAGGATTTCTGCCCTGGTTTGCT  
 L T S E D S A V Y Y C A R G F L P W F A

450  
 GACTGGGGCCAAGGGACTCTGGTCACTGTCTCTGCA  
D W G Q G T L V T V S A

FIGURE 43B

1	D	I	Q	M	T	Q	S	P	S	T	L	S	A	S	V	G	D	R	V	T
1	D	I	Q	M	T	Q	S	P	S	T	L	S	A	S	V	G	D	R	V	T
21	I	T	C	R	A	S	Q	S	I	N	T	W	L	A	W	Y	Q	Q	K	P
21	I	T	C	<u>K</u>	<u>A</u>	<u>S</u>	<u>E</u>	<u>N</u>	<u>V</u>	<u>D</u>	<u>T</u>	<u>Y</u>	<u>V</u>	<u>S</u>	W	Y	Q	Q	K	P
41	G	K	A	P	K	L	L	M	Y	K	A	S	S	L	E	S	G	V	P	S
41	G	K	A	P	K	L	L	<u>I</u>	Y	<u>G</u>	<u>A</u>	<u>S</u>	<u>N</u>	<u>R</u>	<u>Y</u>	<u>T</u>	G	V	P	S
61	R	F	<u>I</u>	G	S	G	S	G	T	E	F	T	L	T	I	S	S	L	Q	P
61	R	F	<u>S</u>	G	S	G	S	G	T	<u>D</u>	F	T	L	T	I	S	S	L	Q	P
81	D	D	F	A	T	Y	Y	C		Q	Q	Y	N	S	D	S	K	M	F	G
81	D	D	F	A	T	Y	Y	C	<u>G</u>	<u>Q</u>	<u>S</u>	<u>Y</u>	<u>N</u>		<u>Y</u>	<u>P</u>	<u>F</u>	<u>T</u>	<u>F</u>	<u>G</u>
100	Q	G	T	K	V	E	V	K												
100	Q	G	T	K	V	E	V	K												

FIGURE 44A

1	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	S	S	V	K	V
1	Q	V	Q	L	V	Q	S	G	A	E	V	K	K	P	G	S	S	V	K	V
21	S	C	K	A	S	G	<u>G</u>	<u>T</u>	<u>F</u>	<u>S</u>	<u>R</u>	<u>S</u>	<u>A</u>	<u>I</u>	<u>I</u>	<u>W</u>	<u>V</u>	<u>R</u>	<u>Q</u>	<u>A</u>
21	S	C	K	A	S	G	<u>Y</u>	<u>I</u>	<u>F</u>	<u>T</u>	<u>S</u>	<u>S</u>	<u>W</u>	<u>I</u>	<u>N</u>	W	V	R	Q	A
41	P	G	Q	G	L	E	W	M	G	G	I	V	P	M	F	G	P	P	N	Y
41	P	G	Q	G	L	E	W	M	G	<u>R</u>	<u>I</u>	<u>D</u>	<u>P</u>	<u>S</u>	<u>D</u>	<u>G</u>	<u>E</u>	<u>V</u>	<u>H</u>	<u>Y</u>
61	A	Q	K	F	Q	G	R	V	T	I	T	A	D	E	S	T	N	T	A	Y
61	<u>N</u>	<u>Q</u>	<u>D</u>	<u>F</u>	<u>K</u>	<u>D</u>	R	V	T	I	T	A	D	E	S	T	N	T	A	Y
81	M	E	L	S	S	L	R	S	E	D	T	A	F	Y	F	C	A	G	G	Y
81	M	E	L	S	S	L	R	S	E	D	T	A	<u>V</u>	<u>Y</u>	<u>Y</u>	C	A	<u>R</u>	<u>G</u>	<u>F</u>
101	G	I	Y	S	P	E	E	Y	N	G	G	L	V	T	V	S	S			
101	<u>L</u>	<u>P</u>	<u>W</u>	<u>F</u>	<u>A</u>	<u>D</u>	<u>W</u>	<u>G</u>	<u>Q</u>	<u>G</u>	<u>T</u>	L	V	T	V	S	S			

FIGURE 44B

rh10

10	20	30	40	50	60
TTTTTTCTAG	ACCACCATGG	AGACCGATAC	CCTCCTGCTA	TGGGTCCTCC	TGCTATGGGT
70	80	90	100	110	120
CCCAGGATCA	ACCGGAGATA	TTCAGATGAC	CCAGTCTCCG	TCGACCCTCT	CTGCT

rh11

10	20	30	40	50	60
TTTTAAGCTT	GGGAGCTTTG	CCTGGCTTCT	GCTGATACCA	GGATACATAA	GTATCCACAT
70	80	90	100	110	120
TTTCACTGGC	CTTGCAGGTT	ATGGTGACCC	TATCCCCGAC	GCTAGCAGAG	AGGGTCGACG

rh12

10	20	30	40	50	60
TTTTAAGCTT	CTAATTTATG	GGGCATCCAA	CCGGTACACT	GGGGTACCTT	CACGCTTCAG
70	80	90	100	110	120
TGGCAGTGGA	TCTGGGACCG	ATTTACCCT	CACAATCAGC	TCTCTGCAGC	CAGATGAT

rh13

10	20	30	40	50	60
TTTTTTCTAG	AGCAAAAGTC	TACTTACGTT	TGACCTCCAC	CTTGGTCCCC	TGACCGAACG
70	80	90	100	110	120
TGAATGGATA	GTTGTAAGTC	TGTCCGCAGT	AATAAGTGGC	GAAATCATCT	GGCTGCAGAG

FIGURE 45A

rh20

```

      10      20      30      40      50      60
TTTTTCTAGA CCACCATGGG ATGGAGCTGG ATCTTTCTCT TCCTCCTGTC AGGTACCGCG

      70      80      90     100     110
GGCGTGCACT CTCAGGTCCA GCTTGTCCAG TCTGGGGCTG AAGTCAAGAA ACCT

```

rh21

```

      10      20      30      40      50      60
TTTTGAATTC TCGAGACCCT GTCCAGGGGC CTGCCTTACC CAGTTTATCC AGGAGCTAGT

      70      80      90     100     110     120
AAAGATGTAG CCAGAAGCTT TGCAGGAGAC CTTCACGGAG CTCCCAGGTT TCTTGACTTC

```

A

rh22

```

      10      20      30      40      50      60
TTTTGAATTC TCGAGTGGAT GGGAAGGATT GATCCTTCCG ATGGTGAAGT TCACTACAAT

      70      80      90     100     110     120
CAAGATTTCA AGGACCGTGT TACAATTACA GCAGACGAAT CCACCAATAC AGCCTACATG

      130
GAACTGAGCA GCCTGAG

```

rh23

```

      10      20      30      40      50      60
TTTTTCTAGA GGTTTTAAGG ACTCACCTGA GGAGACTGTG ACCAGGGTTC CTTGGCCCCA

      70      80      90     100     110     120
GTCAGCAAAC CAGGGCAGAA ATCCTCTTGC ACAGTAATAG ACTGCAGTGT CCTCTGATCT

      130
CAGGCTGCTC AGTT

```

FIGURE 45B

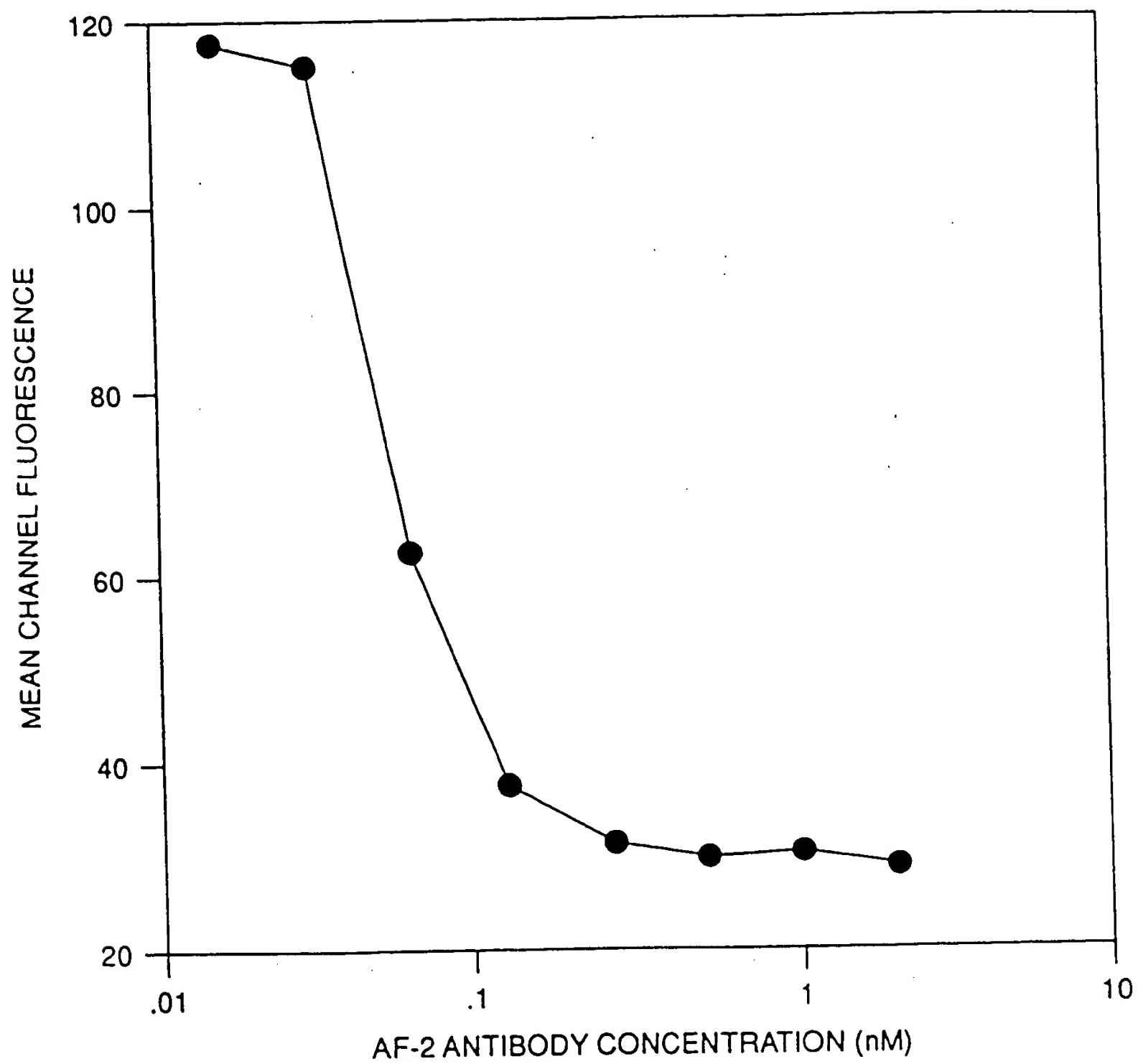


FIGURE 46